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The Journal of Higher Education FEBRUARY, 1958

Educationists and the Tradition of Learning

By WALTER J. ONG

An Historical Explication

EVERYBODY today, it seems, wants to reform education. It would be interesting if this ambition were a mark of our times. But it is not, for an ambition to reform education is found in most of the ages of known civilizations. The desire for educational reform may be an all-consuming fire, it may be a steady, quiet flame, or it may be a fitful flame easily extinguished. It may be a mere velleity. The drive for reform may push in any of various directions—toward new methods calculated to improve on the old, toward recovering purportedly successful old patterns, toward a better organization of existing operations. Indeed, the contrasting, and often conflicting, shapes it takes condemn the reforming drive frequently to ineffectiveness. But the drive is seldom wanting.

It is present even among the students in colleges and universities, where the more intelligent students—from whom we hope our educators are drawn—are normally highly critical of the education being meted out to them, whatever it is. This is as it should be. No educational pattern is perfect, and if a student is being educated at all he is being educated to judge. When he complains that something is wanting in the education he receives, his complaint is often some indication, paradoxically, that he has truly been educated and that the program he is criticizing was, to some degree at least, a success.

College and university students, and the teachers drawn from them, are not the only ones who become heated about what is wrong with the teaching processes or curriculum. A good friend of mine on the board of

education in a large American city, who is himself a businessman, speaks frankly of other prominent businessmen of the city with whom his board has frequently to deal as "frustrated teachers." Many of them have very definite ideas as to just how teaching should be carried on and are quite vocal as to what reforms are necessary to get their ideas accepted.

We can be thankful for the drive to reform education, for when this drive ceases to operate, education is finished. Education must be in a constant state of reforming itself. However, it is important that the objectives of reform be realistically conceived. This means that that reform must be based on some knowledge of the history of education, for it is through studying its history that we learn more profoundly what education really is.

Among the various ideas noised about today for the reform of education, there is one in particular which merits careful examination in the light of history. It is the idea that education is seriously suffering from being in the control of professional educators or educationists, at least in English-speaking areas on this side of the Atlantic. This idea appears in various epiphanies in books such as Arthur Eugene Bestor's *Educational Wastelands* or Rudolph Franz Flesch's *Why Johnny Can't Read*, or in education programs such as the Great Books Program. Is this idea old or new? And is the threat that it envisions old or new? If the threat is old, what was done about it in the past? If new, how did it arise out of the past? For new things rise out of the past as surely as old things do. There is nowhere else for them to come from.

IT IS impossible to give an answer to these questions out of the whole of educational history, but in terms of educational history since the rise of the universities something can be said.[1] The university is, after all, a key to all formal education from the Middle Ages on. From the time of their rise in the twelfth and thirteenth centuries to the present day, universities have been more self-possessed and more tightly organized than any educational institutions which earlier ages had known. They have been the organs at the top of the educational structure, and consequently have had great influence on secondary and elementary educators, who have been, more or less, themselves the products of higher education. Moreover, the universities are unique in the sense in which the invention of the alphabet is unique. Like the alphabet, they were formed only at one particular time and place in the history of mankind. As all alphabets in the world derive—despite additions and subtractions and adaptations—from the one which the Phoenicians were carrying through the Mediterranean world around 2000 B.C., so all the universities in the world derive in some way from those of medieval Western Europe. There have been many modifications of the original pattern, but there has been no independent starting point. The

[1]The factual material used in this paper is available in or through Hastings Rashdall, *The Universities of Europe in the Middle Ages* (new edition edited by F. M. Powicke and A. B. Emden. Oxford: The Clarendon Press, 1936, 3 volumes); in two books by the present author soon to be published by Harvard University Press, *Ramus, Method, and the Decay of Dialogue* and *Ramus and Talon Inventory*. *See also* Samuel Eliot Morison, *The Founding of Harvard College* (Cambridge, Massachusetts: Harvard University Press, 1935) and *Harvard College in the Seventeenth Century* (2 volumes, continuously paginated, Harvard University Press, 1936).

universities of the United States are not European universities, and Canadian universities are neither one nor the other. Universities in Communist countries are still another thing, and universities in Latin America another. Yet, for all their varying patterns, these universities have all a common starting point.

When we look at the universities in their origins, what do we find them to have been? We can take as a sample university the University of Paris, oldest of all the universities and mother of them all. Here we find well developed by the thirteenth century faculties of arts, medicine, law, and theology. Arts included the study of the Latin language—for educated persons then as now cultivated a special language in which to express their fine thoughts—and of "philosophy," which meant largely formal logic and physics with a rather insignificant bit of metaphysics and slightly more ethics. Medicine, law, and theology were the "higher faculties," with a certain training in the arts as prerequisite for their students, although it is interesting to note that only medicine required that the entire course in scholastic philosophy be completed, that is, that the student entering on medicine be a master of arts. Law and theology made relatively little of scholastic philosophy. Then as now not all universities had all four faculties. Theology was frequently missing.

With some adjustment made necessary by the evolution of human knowledge, all this sounds rather familiar to us, but there is something further in the picture which seems truly strange. The universities are called universities not because this term at first meant a center of learning, much less because it meant a place where all learning—universal learning—was cultivated. For *universitas* in medieval Latin meant no such things at all. It meant a corporation, so that there could be universities of butchers and barbers just as well as the University of Masters and Scholars Living in Paris (*Universitas magistrorum et scholarium Parisius degentium*). These corporations were really guilds, and the medieval university was a group of teachers' guilds—or, at Bologna and Salamanca, an association of students hiring their own teachers and preparing themselves to enter the guilds to which the teachers belonged whom they hired! Reception of a degree was admission to the guild or union. One became a master of arts (later on in other universities a doctor of philosophy, for the two terms historically mean exactly the same thing), or a master or doctor of medicine, of law, or of theology, in a process parallel to that whereby one became a master butcher or a master carpenter. One had to pass through an apprenticeship, and a qualified apprentice was called a bachelor—bachelor butcher, bachelor carpenter, or bachelor of arts, medicine, law, or theology as the case might be. Each faculty formed a separate guild united under the larger corporation or *universitas*, and one had to be admitted to each guild or union separately.

The corollaries to this organization were that all the students in a university were technically apprentices learning to teach and that the universities themselves were, strictly speaking, nothing but normal schools. Moreover, they had the power of educational accrediting associations, for at first by mere prestige and later

(1291–92) by papal bull the graduates of the Universities of Bologna and Paris were given the *ius ubique docendi*, the right to teach anywhere. Other universities had seen to it that they, too, had this official accreditation by papal bull. Indeed, they secured it sometimes earlier than Bologna and Paris—Toulouse, for example, in 1233—for their prestige was less than that of Bologna and Paris, and needed more bolstering toward the start.

It is true that many students went to the universities not to enter on a career of teaching, but to acquire sufficient learning to make an impression in the extra-university world, as courtiers or legal advisers. But, however frequent this practice was, the universities did not officially sanction it, and from at least the year 1366 to 1452 recipients of the master of arts degree at Paris had to take an oath that they would teach for two years, although a certain amount of evasion was countenanced, for the statute adds the familiar proviso *nisi rationabili causa excusatur*, "unless excused for a good reason." We know that there proved to be many good reasons, but the principle of enforced regency still stood. Moreover, bachelors in any of the faculties were expected regularly to help out with the teaching duties of the masters.

We smile at this academic inconsistency, or even duplicity, which made little provision for the reality of the situation and treated all university students as apprentice teachers. But are we any more consistent or honest in our own practices? We still call the closing exercises of the academic year a "commencement." Commencement of what? Of teaching, although none but a small minority of those "commencing" are commencing any teaching at all. For a doctoral degree we generally require a defense of a thesis, most often after all the real requirements have been met. This "defense" is historically the inaugural act whereby the person inducted into the guild or union as a full-fledged teacher exercised his prerogatives of teaching on his own authority for the first time, and proved his prowess by winning out against any attempts to unhorse him intellectually. Finally, when a student today finishes at medical school, we call him a doctor—that is, a teacher—of medicine, although he has rarely any intention of ever teaching medicine at all. This is not mere archaism, but a kind of duplicity. "Doctor" retains enough of the connotation of teacher—the man who really knows—to have an aura of high respectability about it, for teaching is more profoundly respected than we think. I suspect that most medical students would much rather receive an academic degree as doctors of medicine than a certificate vouching for them as practitioners of healing.

With these inconsistencies of our own, we can smile a little more sympathetically at the plight of the medieval university where, again in theory, each faculty was a guild of teachers engaged in teaching other prospective teachers to be teachers so that these could teach still further prospective teachers to be teachers in turn, and so on *ad infinitum*. The pattern is amusing, but one conclusion can be drawn from it unmistakably: the medieval educational apparatus was certainly in the hands of the educationists. More than that. These educationists were officially not inter-

ested in anyone except themselves and other prospective educationists. Can it be that we are this badly off today? Yet this teacher-centered institution, the medieval university, is by no means a sterile thing, but is rather the great wellhead of twentieth-century education and intellectual life.

THE dominance of the teacher's or educationist's outlook in the medieval and Renaissance university becomes even more evident when we examine the subject which is most typical of the medieval university curriculum, logic. Medieval scholastic logic is practically synonymous with the beginnings of universities. Where you have one of these phenomena, you have the other. However, only within the past ten or fifteen years, with the work of Moody, Boehner, Bochenski, Mullally, and others, have we begun to understand what medieval scholastic logic was. It was not simply Aristotelian logic, for it advanced in many ways far beyond Aristotle, following the work of Peter of Spain, Ockham, Buridan, and others. Neither was it a part of Thomistic theology or philosophy, for, although Peter of Spain was an almost exact contemporary of Thomas Aquinas, this great theologian seems to have been quite unaware of the tremendous developments in logic in his day, or at least uninterested in them. Those who call themselves Neo-Scholastics or Thomists today, with very few exceptions, have shown no interest in medieval scholastic logic. It has been rediscovered by practitioners of modern so-called "mathematical" or "symbolic" logic, which is basically a highly quantified formal logic, and which has been developed at the hands of Boole, Frege, Whitehead, Russell, Carnap, Quine, Lukasiewicz, and their associates. For medieval scholastic logic is basically the same sort of instrument as modern symbolic logic, only without the symbols. It, too, is a highly quantified formal logic.

Here, however, it is not the nature of the logic which interests us so much as the value and aims which its medieval proponents imputed to it. We today are inclined to consider logic as the art of thinking, but this is a very late notion of logic, which hardly antedates the sixteenth century. Before this, in the central tradition of Scholasticism and the universities (although sometimes not in St. Thomas Aquinas) logic was taken as synonymous with dialectic, and this logic or dialectic was defined in Cicero's terms as the art of discourse (*ars disserendi*). Until the past few hundred years, men did not commonly consider thinking itself as something which took place in a walled-in private mind but as something which took place in connection with discourse, in a kind of dialogue setting—a notion of thinking which the sociologists and psychologists are enabling us to recover and refine today. We think as we talk—to others or to ourselves.

Now, if logic is the art of discourse, under one of its aspects all discourse can be thought of as teaching. When I speak to you, I manifest something which, presumably, you do not know, and thus I "teach" you something. Perhaps it was inevitable in academic circles that this didactic aspect of discourse be emphasized. At any rate, it comes to be emphasized, consciously or unconsciously, from the Middle Ages down to the flowering

of aesthetic theories of expression in the nineteenth century. Speaking for an earlier tradition and adumbrating the future climate of opinion, in *An Apologie for Poetry* (written *ca.* 1580, printed 1595) Sir Philip Sidney arbitrates the respective claims of poetry and history and philosophy by deciding which *teaches* most effectively.

If logic or dialectic is the art of discourse, and discourse is preeminently teaching, logic or dialectic should be basically the art of teaching. And such we find it to be, not only at the time of Sir Philip Sidney and into the seventeenth century, but also at the very beginning of the major developments of medieval logic in the thirteenth century. In the famous definition which opens Peter of Spain's thirteenth-century *Summulae logicales*, dialectic or logic is defined as "the art of arts and the science of sciences, providing the way to the principles of all curriculum subjects" (*ars artium et scientia scientiarum ad omnium methodorum principia viam habens*). This is even stronger in its didactic orientation than it appears at first blush, for "art" and "science" themselves suggest not what they suggest today but rather curriculum subjects. The definition thus reads almost as if one were to say that logic is "the curriculum subject of curriculum subjects, providing the way to the principles of all curriculum subjects." Hence, logic is here the equivalent of a course in education. It is the course in educational methods. For it was assumed that all courses should be taught "logically," although the ways in which "logic" was really applied to teaching, while more forthright than they are today, were quite various.

The implications of this view with regard to the hold which professional educationists may have had on education are not far to seek. As we have seen, at Paris, the mother of universities, and at most universities patterned on Paris, among the students of the higher faculties only the medical students were required to complete requirements for masters of arts before they could take up their more specialized work. But the students of law and of theology, even when they did not complete the master of arts work, did go through the logic course and were generally required to do so. Translated into the perspectives we have been working out here, this manifestly means that not only all masters of arts but all students on the higher faculties as well were required to take the full complement of education courses. However bad matters are today, they are not this bad. To be a doctor of medicine, one does not have to take courses in education, even though the title M.D. signifies literally that one is not a curer of diseases but a teacher of a certain store of knowledge.

LEST this reconstruction seem too fanciful, let us recall some facts about the humanists' attack on the scholasticism of the universities in the fifteenth and sixteenth centuries. The humanists were in many ways first and foremost educational reformers. And the chief butt of their attack was not "scholasticism" in general, but scholastic logic and whatever areas of learning were directly affected by scholastic logic. Erasmus and More regard St. Thomas Aquinas, who today is considered the scholastic of scholastics, as hardly a scholastic at all, classing him rather with the Fathers of the Church. But the

scholastic logicians, Jean Buridan, Duns Scotus, Walter Burleigh, Ralph Strode (Chaucer's "philosophical Strode"), and particularly Peter of Spain are looked on as despicable educators by Ioannes Caesarius, Juan Luis Vives, Erasmus, More, Ramus, and other sixteenth-century humanists of varying complexions.

Because of the way in which logic was held as the art governing teaching procedure, this attack by the humanists is an attack not on a subject but on a teaching method, on an educational outlook and practice. The basis of their attack is the same basis used by most educational reformers: this formal logic, and hence the whole educational procedure which it purportedly governed, corresponded to nothing in reality. What is learned in a class in logic has nothing to do with actual life and actual mental activity. Such was the verdict of Peter Ramus, who set out to produce instead a "real" logic—in fact a kind of rhetoric-logic—corresponding to what he took for actuality.

The humanists' attack on scholasticism is thus an attempt to liberate education from the earlier professional educationists, persons who stressed method to the neglect of content. But the humanists themselves were professional educators, and excellent promoters, with a new promotional procedure to rely on, namely, printing, in which an extraordinary number of humanists were directly and deeply involved. From the Manutii in Italy, to the Amerbachs in Basel, to Johann Sturm in the lower Rhineland and in Paris, to the family of Sir Thomas More in England, we find the humanist milieu active in the printing and publishing business.

These educational reformers had not only a new program backed by a new device but also a new educational outlook and practice, for humanism stood not only for a new curriculum, with a de-emphasis of logic and more emphasis on literary expression, but for a new method, too. The new method was, basically, the grammatical or linguistic method as revitalized by a typographical culture. Instead of devoting itself to logical structure as to a kind of mathematics, education would now devote itself to explicating literary texts and their language, and to producing new literature of a value comparable to that of ancient Greece and Rome. The study of language, with a strong emphasis on printed works, was to dominate all fields. We can see this in the manner in which new subjects, such as geography and history, now make their way into the schools. They come in not labeled frankly as geography and history but wrapped in heavy disguises, associating them with textual study and understanding. One learned history because one read Livy or Tacitus or Caesar, or because one needed to interpret their accounts of *res gestae* in terms of the larger background of modern and ancient history accumulating in man's mind. One learned geography in order to understand Virgil or Caesar, or to relate their knowledge of the earth's surface to the more advanced knowledge which the explorers were retailing to Europe.

The humanists were professional educationists less than were the scholastics of the university tradition in the sense that they were not necessarily members of the teachers' guilds or unions. They were often hired tutors in families of the nobility or *haute bourgeoisie*, retained not to

educate other teachers like themselves but to prepare the youth of the family for extra-curricular life. Thus many, or even most, great early humanists, such as Rudolph Agricola, Erasmus, Vives, and Sturm are not committed to any university, nor are their educational programs. Indeed, humanism in part disintegrated the medieval university, for it precipitated the separation of secondary schooling from the university program, in which secondary, and even some elementary, education had been more or less closely incorporated through the Middle Ages.

Humanism remedied a weakness in the lower levels of university instruction. The apprenticeship system of teaching which technically obtained in the medieval university had been particularly unsatisfactory in the arts course, where students were regularly teen-agers, since one finished the entire arts course, all of philosophy included, and received the highest (and only) degree, that of master of arts, commonly at about the age of eighteen.[2] This meant that pupils at present high-school or even elementary-school ages—for many university masters undertook to provide grammar-school education as part of their program—were likely to miss the close supervision and personal interest they required. As apprentices, they could learn or not learn as they pleased, unless they had the good fortune to find an especially interested master. This framework for education might work well on the higher professional faculties of medicine, law, and theology, but it obviously had its disadvantages at the high-school level. The humanists proposed instead a more pupil-centered system expressly preparing for "life" rather than for teaching, and the success of their system in the college of Johann Sturm at Strasbourg, in the Jesuit colleges founded all over the Continent, and in other similar colleges throughout Europe and, later, colonial America, syphoned off students from the university or university-associated arts course, at least at the lower levels of the course. These Renaissance colleges were really agents of the family, charged with doing their best with the boys committed to them, rather than unions to whom youngsters were apprenticed for better or for worse.

The Renaissance humanist "college" is the forerunner in Europe of the secondary schools which prepare for higher education. In the United States, and to some extent in Canada, it is the forerunner also of our universities. Harvard College, the first college in the United States, was such a college, and its growth into a university has been matched all over the United States and in parts of Canada by the development of other similar institutions. For this reason, unlike European universities, which even at the undergraduate level have only highly specialized programs, American and Canadian universities are also organs of general or liberal education, in the tradition of the Renaissance colleges from which they are descended.

And yet, despite the fact that the humanists were not technically committed in their schools to preparing teachers as such in the way in which the medieval universities had been, the medieval view that institutions of higher education are basically

[2]The University of Paris was a slight exception to this practice, for there certain statutes provided that no one could actually act as master of arts until the age of twenty.

normal schools had ways of making itself vaguely felt even among the humanists. Thus Harvard College was founded primarily to provide a literate and well-trained ministry—which is much the same as to say to provide teachers. And among the theses which little boys at Harvard defended through the mid-seventeenth century—always, of course, in Latin—many are a defense not of what the pupil has presumably learned but of the pedagogical methods by which he has been taught. They are teacher-centered theses rather than pupil-centered. Samuel Eliot Morison's *Harvard College in the Seventeenth Century* provides these samples of such theses, which I translate from the Latin: "Languages are to be learned before the arts," "Languages are more readily learned by practice than by rule," "The art of physics is to be learned from things, not fabricated in the mind." The self-consciousness and the defensive attitudes of the teacher, who is never really quite sure that his curriculum and method are the best, are nowhere more evident than in these theorems about the curriculum which were stated and "defended" by early New England youngsters before their proud and nervous—and probably critical—parents and friends.

IN THESE complex and interwoven patterns of educational history through the Middle Ages and the Renaissance we can discern two momenta not unlike momenta which are developed today, namely, a move toward specialization and a complementary move toward despecialization. The educationists, then as now, are torn between the two movements. Logic had appealed to the medieval mind as a despecializing device. If everything intellectual was "logical," the thing to do before one specialized was certainly to master logic and thereby to master the whole intellectual ground at once and, presumably, all of life as well. But at the same time, specialization had also appealed to the medieval mind. The three higher university faculties of medicine, law, and theology are permanent reminders of this fact. Indeed, from its beginning the university has proved itself consistently a specializing organ rather than a despecializing organ, so that, generally speaking, only in North America where universities are Renaissance humanist colleges or secondary schools transmuted into universities, do we find universities which ambition general education as any part at all of their program. Specialization had grown so far in the universities by the time of the Renaissance humanists that logic itself, the generalizing subject, was too intricate to be of any further practical use as a leveler or common denominator for intellectual life.

To the Renaissance humanist, linguistic or grammatical studies (including, of course, rhetoric) were to be the generalizing medium, the common denominator of intellectual activity. Ramus and his disciple Johann Thomas Freige (Freigius) proposed studying Virgil's *Georgics* as the proper approach to physics, but this arrangement, too, evolved toward specialization. For, generally and practically, linguistic or grammatical studies meant to Renaissance man Latin studies. Greek and Hebrew were supposedly included but there was in actuality little real emphasis on Greek and almost none on Hebrew,

so that Latin carried the day. Latin was indeed a common denominator, if not as matter for literary study, at least as the normal vehicle of communication among learned men of all nations and in all fields. But when the vernaculars rose, Latin, too, became a specialized subject, as, despite its favored position in certain secondary-school traditions, it is today.

Thus twice in succession we have a subject, which promises to unite all the other subjects of the curriculums and captures the imagination of teachers, become too specialized to serve its originally envisioned purpose. Whether this specialization is a degeneration or a development depends on one's point of view. Which it may be is, for our present purpose, immaterial. What is of interest at present is the fact that when humanism attacked formal logic as too specialized a curriculum, it was attacking a too specialized subject which had originally appealed because it was not specialized; the further fact that the linguistic program which the humanists substituted for formal logic became too specialized in turn; and the concluding fact that this uneasy see-saw between despecialization and specialization was intimately connected with the desire of professional educationists to arrive at an adequate educational method. From this point of view, medieval scholastic logicians and, later, Renaissance humanists were both professional educationists. The charge leveled in time against both groups, but especially the scholastics, was the familiar charge against educationists: they cultivated a perversely obfuscated jargon which no normally intelligent person could understand.

I HOPE to have challenged the notion that there was a time when education was not in the hands of the educationists. Here it might be feasible to suggest a descriptive definition of an educationist. He is a man preoccupied with techniques of communication and with techniques of communicating these techniques. Through the history of learning and research there has been more preoccupation than we might suspect with techniques and theories of communication. We often fail to recognize this preoccupation because it is not labeled educational theory, but it is there nevertheless. From the very beginning the very heart of the university has been concerned with the arts of communication, the *artes sermocinales*, not only logic or dialectic, but grammar and rhetoric as well. And the university has been the most critical and influential educational institution from medieval to modern times. The humanists shifted the emphasis among these arts but remained interested primarily in communication.

If we think of the educationist as a man interested in communication techniques, schools of thought which at first blush seem diametrically opposed are seen to share many common preoccupations. Those who wish to ground general education on either of the two earlier bases we have discussed here, that is, on logic, as in the medieval pattern, or on grammatico-rhetorical language studies, as proposed by the humanists—and there are still persons who want one or the other of these—are often incensed against a kind of education propounded by many educationists today which stresses social skills and

"getting along" with other persons. Without undertaking to defend such an education, I should like to call attention to the fact that it, too, is in its own way concerned with the classical problem of communication which has formed the central node of general or liberal education from ancient times to the present. If it stresses the social aspect of thought, we must face the fact that our modern achievement of reflective social consciousness affects our notion of intellectual activity, too.

It has become fashionable in many circles to denounce the watering down of the curriculum when more substantial courses are placed in competition with, or are even supplanted by, other courses developing in the student adaptability, social poise, and simply "charm" (a term which actually occurs as the title of courses given in certain college and university adult-education programs in the United States). Certainly our educational system in the United States is suffering from such watering down. I leave it to persons better informed than myself to say what the state of affairs is in Canada. However, a movement such as this is a historical fact, and as such deserves dispassionate historical examination even more than it may deserve denunciation. It is certain that today the social aspect of communication and of thought itself is more important, and is recognized as more important, than it was in past times. The hectic interest in courses of this sort is a symptom of a larger reorientation in man's relationship to other men.

Granted that the basis of liberal education is skill in intelligent communication, what should this mean in a society evolved as ours has evolved to the point where so much intelligence is being diffused—for better or for worse—through mass media such as the press, movies, radio, and television? Granted the prime importance of language as the most direct and lucid means of intelligent communication, used presumably with intelligence behind the scenes even by those who make movies and direct television programs, can we afford to consider language now as standing alone in the communications field? Verbal expression now seems inextricably intertwined with other newly specialized forms of expression. Should such a fact affect our approach to a liberal education? I do not believe that it is necessary to give courses in Intermediate Radio Listening or Advanced Television Viewing. Yet it may well be that until we can make students break through the press-movie-radio-television barrier in their own lives, they cannot react intelligently to language at all. Until they can replace the undiscriminating hypnotic response to these media in which they have been trained from infancy with a discriminating response, they remain impervious to any communication or thinking other than the crudest sort. My own experience has been that persons undiscriminating in their reaction to these mass media are undiscriminating in their thinking and speaking, and that a person unaware of the way in which advertisements and Hollywood movies work is incapable of responding to a good contemporary poem or to any first-rate literature. But discrimination here

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College Teaching as a Profession

By MAURICE L. FARBER AND W. A. BOUSFIELD

A Study of Students' Opinions at the University of Connecticut

WITH the demand for well-qualified college teachers threatening to exceed the supply, it is particularly disturbing to note that the profession seems not to be attracting many new aspirants. This state of affairs suggested the desirability of a study of the existing perceptions and evaluations of college teaching as a profession among those from whose ranks the members must come—the college students.

Data were obtained from 87 Juniors and Seniors at the University of Connecticut (60 men, 27 women). The student population sampled may be described as possessing mainly lower-middle class and lower-class backgrounds with some representation from the upper-middle class but almost none from the upper-class. For many of these students the acquisition of a college degree constitutes an advance beyond the social status of their parents. The university ranks fairly high by the Knapp and Goodrich formula in the production of scientists[1] and might therefore seem a promising source of college teachers. The findings of the study here reported may in all probability be similar to those which would be obtained from comparable college populations, but not to such institutions as, for example, Yale or Princeton, with their different class compositions.

The subjects were asked to write anonymously their replies to the following questions:

> If it were suggested to you that after graduation you prepare yourself to be a college professor, would your reaction to this plan tend to be favorable_____or unfavorable_____?
>
> What are your reasons for this decision?

The reasons were categorized, and the reliability of the classification was established by the criterion that both investigators had to agree on the classification of each reason.

Looking first at the flat favorable-unfavorable choices in response to the first question, we find that 39 per cent indicated "favorable" and 61 per cent "unfavorable." There was some tendency for women to react less favorably than men. This question, it should be noted, was formulated with a view toward eliciting the "valence" of the profession and not to discover how many students actually planned to become college teachers. The strong impression emerges from the counseling of these students that very few indeed plan a career of college teaching. Analysis of the reasons reveals, in general, a cognitive

[1] Knapp, R. H., and Goodrich, H. B. *Origins of American Scientists.* Chicago: University of Chicago Press, 1952, pp. 304–305.

image of the profession in which college teaching, while having some fairly attractive features, is, with its high demands upon ability, arduous preparation, and especially because of its insufficient financial rewards, hardly worth the expenditure of effort—the game is not worth the candle.

The largest group of attractive features refer to the pleasant duties: association with students, the pleasant atmosphere of a university, the enjoyment of teaching, and the lack of stress of the work. A number point to the opportunity for intellectual growth and stimulation of the teacher. Somewhat less frequently it is noted that the profession provides an opportunity to fulfill one's own interests rather than being forced to work at something for which one has no inclination. The profession is regarded as having at least moderately high prestige and status. Finally, there is the fairly strong impression that professors have, with their few hours of teaching and long vacations, ample leisure.

The unfavorable reasons, which are more numerous than the favorable ones, are led in frequency by a hard-headed consideration: the salaries are seen as relatively low. For many students the rôle is not felt to be congruent with their personalities and interests; often they already feel committed to some other occupation that they find more attractive. A sizable group thought that they could not meet the high intellectual demands of the profession.

While, as has been indicated, the duties are frequently seen as pleasant, a considerable though smaller number point to such unpleasant features as the monotony and repetitious nature of teaching. Some think that it imposes restrictions both on academic and personal life, that there are hampering regulations and pressures that necessitate too much circumspection. Finally, a salient feature is the long and arduous preparation required for the profession. Often this is linked with the inadequacy of the salaries.

IN INTERPRETING the data, one is struck at the outset by the remarkably realistic image the students have of the profession. Aside, possibly, from their overestimation of a college teacher's leisure time, there are few if any points that could be considered grossly inaccurate. There is little sign that it is viewed as a "glamour profession." It is the impression of the authors that during their own college student days little such realism and knowledge of the profession existed.

It is useful, in analyzing a social problem, to view it at some of the different levels at which the various social sciences operate. The present problem, for instance, may be seen in terms of economics. In this framework, college teaching is not valued as a good investment in that too high a price must be paid for the moderate yields.

On a sociological, ethnological level, we might note the materialistic values of our culture, the importance of salary in the selection of an occupation. Concurrently, too, there seems to be a fairly low evaluation placed upon the joy of intellectual life. (Only 15 of our 87 subjects mentioned what after all one might consider a rather basic characteristic of the

profession.) Finally, one might point to the kinds of models that exist in our society for young people to emulate. Perhaps they are found among the idols of consumption; they are apparently not to be found in the groves of *academe*.

The variable of social class doubtless plays an important rôle. A recent report of a study at Harvard and Radcliffe reveals that the bulk of the students who plan to teach are of low socioeconomic status. They are, moreover, of high academic standing, often of the honor group, with decided intellectual interests.[2] The relative paucity of University of Connecticut students of similar socioeconomic status planning to enter college teaching suggests that there are selective factors within particular socioeconomic groups that are important.

The pattern of recruitment of college teachers in contemporary America would seem best described as follows: College teaching does not appeal to upper-class students. For them it would constitute a downward socioeconomic move. It does not appeal to the average upwardly mobile lower-class and lower–middle class student, who feels he can climb faster and higher, and with less effort, in other segments of our economy. College teaching recruits only from those lower- and lower–middle class students who possess a certain intellectual endowment and seriousness about scholarship. Neither of these characteristics is very frequent. Certain ethnic groups, it would seem, inculcate the requisite attitudes toward scholarship more intensely than do others. In such students there is a coincidence of their needs for upward social mobility and their values concerning the intellectual life.

On a psychological level, to return to the more general perceptual image, the problem might be schematized, within a cognitive framework at least, as involving a goal, only moderately attractive because of a mixture of the pleasant and unpleasant in the duties and social surroundings, but particularly losing luster because of the low salaries and a number of barriers on the path to the goal, including one's own possibly insufficient ability and the long, difficult preparation.

OUR analysis points to no simple solutions. Economic forces may, given the impending shortages, produce a ratio of supply and demand that will cause some upward revision of salaries and render the profession more attractive. There is the danger, to be sure, that the vacancies will merely be filled by persons of lower qualifications, or that class size and teaching loads will be increased, with little effect upon salaries. These trends, at least, can be resisted by academic man if only he is sufficiently determined.

The cultural values that apparently produce the relatively low appeal of college teaching—the stress on easy financial rewards, the anti-intellectualism—are not particularly susceptible to direct attack. They are, however, related to economic and political conditions and may change with them. The "seamless web of culture" is, after all, woven by ourselves.

[2]Report of Committee on Teaching, submitted to President Nathan M. Pusey, Harvard University, 1957.

Once Again—Faculty Salaries

By KENNETH E. EBLE

The Place of Salaries in the Evaluation of Education

TO THE college faculty member whose leisure reading runs to bank statements and past due accounts, the articles concerning college salaries which have been appearing recently in professional journals, national magazines, newspapers, and even advertising columns have been particularly diverting. The articles are accompanied by impressive tables, statistics, and graphs. The faculty reader's satisfaction in having the fact of genteel poverty confirmed is doubtless intensified by the pleasure of finding out the precise extent and degree.

I have not attempted to gather together all the articles in the last year relating to faculty salaries. Nor do I find it possible here to review the vast bibliography on the subject since 1900. All I would observe is that the writings of any one five-year period are much like those of any other five-year period. From the Carnegie report in 1908 to the A.A.U.P. Committee report in 1956, the refrain varies little. The Preface of the Carnegie report observed:

> . . . While college salaries can never be made the equal of those paid in large business enterprises, it is clearly to the interest not only of the professor himself, but of the students and of society in general, that his salary should in all places approach the line of comfort. That it does not do so in most American colleges is only too clearly proven by the statistics given in this Bulletin.[1]

The conclusion to the A.A.U.P. Committee report began:

> It is clear that the profession has retrogressed so much in economic status over the past sixteen years that, as things stand, its capacity to maintain and renew itself may be gravely weakened.[2]

For the most part, there is agreement that college faculty salaries are too low. The occasional disclaimers, like Mr. Lee Soltow's "Are College Teachers Really Underpaid?" (*AAUP Bulletin*, Autumn, 1956), are not very convincing. Seeing the financial position of the college teaching profession almost wholly as a matter of supply and demand, as Mr. Soltow does, loses sight of the future, the practice, the standards, and ideals of that profession, as well as the contribution that profession can make to society. Ascertaining and working to attain adequate salaries seem to me to be vital professional responsibilities. One might begin looking at salaries

[1]Pritchett, Henry S. "Preface," *The Financial Status of the Professor in America and in Germany*. New York: Carnegie Foundation for the Advancement of Teaching, 1908, p. vi. (Bulletin No. 2).

[2]Committee on the Economic Status of the Profession of the American Association of University Professors. "Instructional Salaries in 41 Selected Colleges and Universities for the Academic Year 1955–56: Final Report," *AAUP Bulletin*, XLII (Spring, 1956), pp. 30–31.

from this point of view by examining some of the consequences a depressed financial status has had and is having upon the profession of college teaching.

THE most obvious and at present the most alarming consequence of low faculty salaries is the growing shortage of college teachers. How to meet the no longer "impending tidal wave of students" is the concern of every college. A recent estimate sees the prospect of only about 20 per cent of all college and university faculty members holding the Ph.D. degree by 1970 if the existing faculty-student ratio is to be maintained.[3] Future attempts to find college teachers will run into the blunt realities of a past in which the right number of students did not choose to prepare for college teaching, those who did did not prepare in the right fields, and the ones who could solve faculty shortages in one area or institution want to teach in another. Financial prospects are a large part of these realities.

There was an air of hopelessness in the recent American Council on Education's study, *Expanding Resources for College Teaching*, which urged upon college educators the moral obligation of competing strenuously with science, medicine, business, engineering, and other fields for available talent. The report pointed out that college teachers, concerned with the limited financial returns of their profession and constrained by a feeling that recruiting talent might be unseemly, tend to hold back from the tough competition with more remunerative professions.

[3]Fund for the Advancement of Education, Committee on Utilization of College Teaching Resources. *Better Utilization of College Teaching Resources*, 1956, p. 4.

Are we college teachers holding back? Do we finically decline to huckster? Perhaps we are only overly conscious of the difficulties of the selling job. During a time of general prosperity when competition for talent is intense among college teaching, business, medicine, engineering, and science, that competition is likely to be conducted along financial lines. I am not so contemptuous of these other professions that I would claim college teaching alone promises rewards other than financial. And though I find college teaching tremendously satisfying, I am not sure that the satisfactions to be found in other professions are so meager that their financial enticements will not attract talented individuals. For these reasons, I am not satisfied that the replenishment of our profession lies in more effective salesmanship.

If we assume that a young man or woman can be lured into college teaching, just what kind of a profession does it offer him? Because of conditions peculiar to higher education, most of which relate to the financial status of the profession, the college teacher is likely to find himself in a part-time profession.[4] Sometimes the outside activities are professional in nature: schools looking for applicants have long pointed out the extra money available from extension divisions, correspondence courses, or summer teaching. Large communities offer many opportunities for consultation, surveys, lectures, reports, projects of one kind or another

[4]*See* Herbert E. Longenecker, "University Faculty Compensation Policies and Practices in the United States: a Study of the Policies, Practices, and Problems Related to Supplemental Compensation of University Faculty Members" (Urbana, Illinois: University of Illinois Press, 1956), for a study of policies, practices, and problems.

from which college professors can get extra revenue. And if part-time professional jobs are not available, there are other jobs. One College of Arts and Sciences turned up this list of summer activities of its faculty members: manual laborer, fruit picker, taxi driver, night watchman, wheat harvester, inventory clerk, dishwasher, waiter, house painter, gardener, wine judge, service station attendant, playground attendant, stenographer, janitor, and many similar jobs.[8] Whatever these outside jobs are, they detract from our main business at hand; they undermine the possibility of maintaining the ideals of research and teaching; they give comfort to the public who see in this outside activity only the extra money that a leisure occupation can easily provide; and they make the task of securing adequate full-time salaries a great deal more difficult.

THE nature of college teaching, of course, contributes to the acceptance of a part-time status. College teaching has always been split, if not fragmented, by the claims of teaching, scholarship, and administration upon the professional's time. The profession has provided for these multiple interests by assigning comparatively few actual class hours and leaving the rest of the time free for necessary preparation, pedagogy, research, and administrative duties. The public, when it is aware of the nature of college teachers' schedules, probably misunderstands them. Certainly, the absence of a time clock and with it the eight-hour day and five-day week suggests to many a leisure occupation. If the public considers those frequent vacations, those whole summers off, those sabbatical leaves, does it not seem that a college teacher on an apparently meager yearly salary really earns a great deal for the amount of time he puts in?

Unfortunately, this kind of thinking is not confined to the world outside the university. I suspect that one academic *cliché*, "Publish or perish," might be balanced by "Ph.D. and petrify." One can complete the Ph.D., find a not very demanding berth, publish a selective number of articles, take on the minimum administrative duties, work up one's steady offerings early and deviate never, and perhaps escape lightly from the rigors of academic life. Under financial pressure to do outside work, or under the pressure of feeling that one is not being paid an adequate full-time salary, it becomes much easier to rationalize professional hours spent in making money elsewhere or in doing nothing. So it is that the general concern with the inadequacy of faculty salaries is often opposed by a sentiment that, after all, the profession does afford so much free time, so much of the good life, that one cannot with good conscience complain. Both of these attitudes, public and professional, toward a less than full-time profession obscure the need for higher salaries and higher professional standards.

Professional standards (the somewhat tangible evidence of professional ideals) are directly related to the profession's economic status. Since a university cannot reward a professor in proportion to the excellence of his research, his teaching, and his service to college and community, there is a

[8] *Ibid.*, p. 69.

tendency to use the Ph.D. degree as evidence of meeting a satisfactory professional standard, to require publication if departmental pressure can stimulate it, and to hope a rather artificially measured professional standard will ensure a rather artificially induced professional competence. Sometimes it does; sometimes it does not.

Research, which seems to afford a measurable evidence of competence, is almost as hard to evaluate, both in its practice and its fruits, as teaching. The essays in Merle Curti's *American Scholarship in the Twentieth Century* make few conclusive remarks about the quality or the value of American scholarship as practiced in the humanities and social studies. Certainly, much research and writing gets done because of the felt necessity to publish; much gets published which does not meet very high standards; and the quality of much of our research is conditioned by the presence or absence of, the want of or need for, money.

This is not to say that the general level of wealth in America has not been a great aid to research, inside and outside the university. It has. In the last fifty years, the basic requirements for scholarship—documents, libraries, grants and fellowships, tools and techniques—have been doubled and redoubled. Considering the great growth and great changes in American society, however, the increase in national wealth, and the expansion of the universities, one can expect the opportunities for, and the extent and support of research to increase. Our profession still rests on the assumption that research is a central (if not the central) activity of the university. Whether, in view of the changing relationship between American higher education and society, this assumption is valid for all universities is open to question. Nevertheless, most of our professional college teachers find that research, scholarship broadly interpreted, is part of their academic privileges and duties. The economic position of a large number of these makes it hard for them to detach the details of existence from the devotion to the laboratory, the manuscript, or the fragments of the past.

DEDICATED scholars engaged in really worth-while research, one can say, will pursue their research regardless of money and conditions. Perhaps American scholars and American scholarship would be the worse for not being pressed. The impact of need upon creativity and productivity is too large a question to go into here. One can observe that substantial financial support of both faculty members and research activities has not curtailed research or cheapened its quality in our well-endowed institutions. Or, to use another measure, where competition with professional practice outside the universities has placed an obligation upon the universities to provide adequate salaries (medical schools, for example), research has been particularly fruitful. Likewise, research in the physical sciences has attained such an accelerated pace because society's pressing needs have provided money for cyclotrons, betatrons, and the projects involved in their use.

With or without research as one's immediate goal, owning books, subscribing to journals, joining professional organizations, and attending professional meetings are essential to

scholarship and to the profession. Perhaps the status of the American Association of University Professors is as apt a comment as any here. The Association after forty years numbers 36,500 out of approximately 180,000 college teachers in America. It is, by now, the principal organization devoted to the general interests of the profession of college and university teaching in America. As such, it is somewhat comparable to the American Medical Association, an organization which in 1956 numbered 148,000 out of a potential 218,000 members. There are, to be sure, differences between the two organizations which make comparisons no more than suggestive, and it must be acknowledged that the first fifty years of the A.M.A.'s one-hundred-year history were years of slow growth.[6] Nevertheless, no one looking at the two professions at the present time is likely to conclude that the profession of college teaching is as secure in its principles, its practice, and its strength as the medical profession. In 1956, the A.A.U.P. experienced a net loss of 1,152 members. This loss, according to the Association Secretary, was occasioned to a considerable extent by the unusually large number of memberships which lapsed because of non-payment of dues for two years. The two years began with 1955, when the dues were increased from $5 to $7.50.[7] In a time of general prosperity and great growth, one might well wonder if there is another professional organization in the country which has lost a corresponding number of members for the want of two dollars and fifty cents?

Maintaining research, encouraging scholarship in a broad sense, is only part of maintaining professional standards. A college professor may or may not be actively engaged in scholarly labors, but he is certain to spend a part of his day in the classroom. How well the individual teacher does his job there is hard to ascertain and makes the measurement of professional standards difficult too. Nevertheless, it seems to me that teaching effectiveness can be related in some degree to the financial position of the profession. The evidence of an individual's scholarly competence is somewhat tangible. In his research activities, the professor is open to the praise and censure of his professional colleagues. But classroom activities are relatively private affairs. A new teacher may be subject to classroom scrutiny a handful of times, but few superiors have either the time or inclination to maintain much vigilance. Consequently, when, for whatever reasons, one's attention is taken away from his professional obligations, teaching is likely to suffer first.

THE classroom offers numerous opportunities for one to slight his duties. If the burden of research or administration or outside activities becomes too heavy, the burden of the classroom can be easily lightened. Lectures can be canned and delivered, and, except for the annoyance of arriving somewhat on time and with regularity, not interfere very much with work in progress. If a speaking engagement, or work on a story, an article, or textbook, or an outside job prevents one from coming to the

[6] Fishbein, Morris. *A History of the American Medical Association, 1847 to 1947.* Philadelphia: W. B. Saunders Company, 1947.

[7] Fuchs, Ralph F. "Report, 1955–57, by the Retiring General Secretary," *AAUP Bulletin,* XLIII (September, 1957), p. 428.

classroom fresh and alive and with a recently provoked interest in a subject, the students still profit from the stored wisdom, the top-of-the-head teaching that will get by in many colleges. Afternoons spent in conference with students are not so profitable as afternoons spent in consultation with paying clients outside the university. My remarks here are not intended to reflect adversely on all those teachers who, despite genteel poverty, manage to be good teachers and good scholars inside and outside the classroom. And despite my gloomy views, I am aware that some good work, even some great work, does get done. But any professional college teacher, given the overwhelming number of petty cares which poverty brings, may find his zest for scholarship small, his classroom performances perfunctory, or if not quite that, dull because of too many bills, too much make-do and do-it-yourself, too much high thinking about low-income living.

Scholarship and teaching are the obvious places to look for the shortcomings in our profession. In less obvious ways, the beggar complex affects the lives of the members of our profession and the profession itself inside and outside the college. The individual teacher learns to accept a modest salary if he has never received and is not likely to receive more. The teaching profession is a stable profession, and financial exigency makes it more so. For many professors who have at last won tenure it may be better to beg in a community where the returns are steady though small than to suffer surfeit and starvation by itinerant mendicancy. The expense of moving, the unwillingness to relinquish tenure, the wish to maintain one's status in rank keep many college teachers rather firmly wed to a vexing but secure beggary. At the same time, this kind of security often keeps a faculty stable—and second rate.

Faculty members early learn to do without. Accustomed to operating on slim budgets, college teachers face the job of seeking recognition for the profession's financial plight as somewhat worse than accepting a condition which has the merits of keeping the body spare, the mind alert, and the possessions few. But do college teachers forego the evidences of soft living out of virtue? Perhaps. Perhaps some, without suppressing desires or stifling envy, live the Socratic life and can honestly declare that only the sophists worry about pay. Most, I suspect live somewhat outside Athens and may find the thin comforts not too much to expect of a robust society.

But are not most teachers who accept genteel poverty, in a way, indulging themselves? The figures they cut in society, for teachers are not always in the classroom, have great bearing upon the effectiveness and quality of higher education. Accepting an inferior economic status in a society which tends to evaluate in financial terms carries the implication that higher education is a luxury, is somewhat frivolous, is an indulgence which can be tolerated so long as its practitioners do not ask too much of that society. The anti-intellectualism which the underpaid idealist inveighs against in his classroom is countenanced by the abject figure he is willing to be outside the classroom.

Furthermore, the rejection of material blessings has not, apparently, endeared college professors to our

society. Indeed, it may have contributed to the suspicion that colleges are infested with actual or potential subversives. Does not the willing acceptance of a low wage border upon the un-American? In their bitterness against their status, are the professors not likely to preach heretical doctrines? I do not think these are fanciful *clichés*, though I have little fear of the radical activities of college professors. Walton Manning, a syndicated expert on education, recently inveighed against the professor for trying to impose the liberal-leftist-pinko line upon college youth, but noted with satisfaction that the professors had failed miserably. Is this, the figure of the American college professor—shabby, would-be subversive, but failing even there—likely to enrich American society?

WHAT do I make of this melancholy chronicle? Admittedly, there are aspects of our profession which have little to do with its financial status, just as there are aspects of our profession which make it attractive beyond or despite its financial position. But my concern is not with the satisfaction or dissatisfaction our profession brings to its individual professors. Rather it is with the general status of a profession, which, it seems to me, must remain high if higher education is to make the kind of contribution to our society by which its public and private support can be justified.

If then, I find that salaries in particular, and finances in general are inadequate, what is a satisfactory salary scale, and how can it be determined? I do not know the precise answer, but I have some rules of thumb by which one might measure the adequacy of a college teacher's salary.

First, a salary should be sufficient to end the hypocrisy of nine months' wages for twelve months' work. It might be that a large segment of a teaching faculty would welcome an additional quarter's work if this meant a decent yearly wage. As it is, many teachers are achieving an adequate salary by teaching outside the regular schedule. There has been much talk of extending the school year or of staggering the academic calendar to make fuller use of university facilities. To a rather large segment of our profession, such opportunities are not inimical to their maintaining their professional standards; one whose major interest is teaching and who feels secure and satisfied in dealing with an area of college teaching which does not require extensive continuing scholarship might not suffer by teaching the year round. At the same time, those whose activities demand the freedom of the summer for productive scholarship must be paid the kind of salary which would be likely to make summers truly productive.

Second, salaries should be sufficient to maintain a truly professional status. Here one must face his own feelings about democracy and economic stratification. It is probably true that the past fifty years in America reflect a tendency toward equality of income or at least toward leveling out the extremes of income. For all this tendency, however, American society does not appear to have abandoned the belief that different occupations will receive and should receive different incomes. Whatever the ultimate validity of this belief or one's personal convictions about it, so long as the

belief has strong currency with the American public, the judgments citizens make as to the relative values of different occupations will do much to determine the character and the well-being of the society. Since higher education is so closely tied to direct public support, what, in general, the college teacher receives for his services reflects rather directly the valuation placed upon higher education.

One inevitably reasons from the bias of his own calling; yet it seems to me reasonably objective to assume that higher education is an activity at the heart of the kind of complex, highly specialized, tremendously productive society which demands so much in the way of expanding knowledge and developing skills and of developing an ever more informed citizenry. It therefore seems to me that to maintain a vital profession's ability to function well—and to function for the good of the whole society—that profession must have the kind of professional status which the public will respect, honor, and seek to perpetuate. If we place high value upon the continuing healthy existence of higher education, we must work to provide the academic profession with sufficient compensation to keep it from becoming moribund.

Third, salaries should be sufficient to ensure the maintenance of a professional class of highly skilled and expertly informed users of the mind—intellectuals, if you will. Here, we go back to the problem of recruiting teachers and scholars for the next generation, and to a related problem of identifying and educating gifted children. The financial status of our profession should be such that it will attract keen intellects and by so doing make certain that the value of the mind is not forgotten. We might also ask that members of our profession receive sufficient compensation to enable them to beget children at least as abundantly as other members of the society and to permit the full intellectual development of those children.

Fourth, salaries should be sufficient to meet a multitude of needs. Some of these may appear trivial; some of my remarks facetious; some of my examples far-fetched. I think, however, none of them falsify real needs. A teacher should be able to buy more than one professional book a year and should be able to buy a good many books of all kinds. He should be able to broaden his outlook and in turn that of his students in other ways—by travel, by study at home and abroad, by participation in the life outside the university. He should be able to contribute his support to community activities—to symphonies, libraries, voters' groups, charities, scholarship funds. He should be able to cut the kind of figure which makes it increasingly difficult to portray the intellectual as a shabby subversive on the one hand or a threadbare incompetent on the other. To that end, he should be able to have his hair cut, his shoes shined, and his clothes cleaned with reasonable frequency. He should be able to buy a new suit upon occasion. He should be able to afford, before the final years of his professional life, a home which does not cast the reflections of indigence upon his children and his social acquaintances.

I do not think these wants are manifestations of greed, nor do I think the attainment of such benefits

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Implications Arising out of Students' Errors

By ELMER A. HABEL

. . . After thirty years in the profession, a mathematics teacher looks at mathematics education from the vantage point of the errors which beginning Freshmen make repeatedly, offering an overview of the total mathematical situation and emphasizing what the errors are and why they are made.

ANY consideration of mathematics at the present time must feature the fact that Russia is now outstripping us, training far more mathematicians, engineers, and scientists than we are and, in general, placing a greater emphasis on the intensity and quality of mathematical training for superior youth. Partly because only half of our brightest high-school students go to college in the United States, colleges are producing only about 60 per cent of the engineers needed in industry, with figures somewhat similar in mathematics and science. The shortage of technical experts points an accusing finger at the whole field of mathematics education, beginning with the curriculum and instruction in elementary school and continuing through graduate school. High-school students have avoided mathematics in the past for reasons which are good and sufficient to them; undoubtedly they will tend to do so in the future. Committed as we are to universal education through high school, we cannot solve this problem by compelling students to take the traditional courses. Such a solution overlooks the high toll in failure that traditional courses have taken in the past.

There are additional disturbing statistics which seem to relate directly or indirectly to the errors which students make with mathematics from the first grade through college. As far back as 1930 enrollment studies by the United States Office of Education have revealed that, nationally, 30 to 40 per cent of entering Freshmen do not return the next year for reasons which no one has adequately determined. Although fewer than 50 per cent of an entering class eventually graduate, evidence of concern on the part of colleges or college authorities over the number of dropouts is meager. That an unsatisfactory college experience may be traumatic for many students is obvious; that the wholesale elimination of college Freshmen should be of concern to all teachers and educators is as evident as that there are important implications for mathematics teaching.

Amazing, too, have been the criticisms of entering Freshmen by college professors since the turn of the century and probably before. Perennially, they have sat in judgment of

Freshmen and always found them seriously deficient in reading, mechanics of English, study habits, and the fundamentals of mathematics, especially arithmetic. It seems either that the teachers might tire of mentioning deficiencies or that they eventually might do something to correct them. Industrial personnel men are now taking up the cry of deficiency and adding to it the desire for employees who have learned in high school how to get along with people; yet high schools are supposed to concentrate on social adjustment. Certainly the present high schools' failure in teaching social adjustment (and the number of mental patients in and out of hospitals seems to indicate failure somewhere) is not the result of overemphasis on mathematics. While the General Electric Company is spending thousands of dollars yearly publicizing the need for more mathematics, tests of college Freshmen are indicating that 30 to 40 per cent of them are inferior to the average eighth-grade pupil in arithmetic computation, and studies in our teachers' colleges show that the prospective teachers frequently do not understand the principles behind the arithmetic they are going to teach. Mr. Pumphrey of the University of Florida tells the story of the Senior who said to him, "I should pass engineering, for I know and understand all the principles of engineering thoroughly." His reply was, "True. You are not failing engineering. You are failing arithmetic and elementary algebra."

Wolfe at Brooklyn College said some years ago:

> The assumption that the students had at one time actually mastered the prerequisite topics and have retained their skills may lead to a well knit system of education on paper, but the failure of this assumption in practice may well be a chief factor contributing to some of our educational ills, especially those of student-failure and its consequent problems.[1]

Yet colleges are unwilling to expend the money or the effort to establish a remedial program for building mathematical skills and understanding. The error in assuming that pupils acquire a foundation in mathematics before college is proved by tests[2] which have shown, for example, that as many as 90 per cent of the Freshmen have the odd notion that division by zero is possible and (many of them think) the answer is infinity.

NOW, what are the implications of errors in mathematics, both from the immediacy of the error itself as the Freshman makes it and for an educational backdrop against which to view education? Reeve of Columbia University says that a national study of the mathematics curriculum should be made by the best people available in the nation for the purpose of organizing a sensibly unified curriculum from elementary school through high school.[3] Newsom of the New York State Department of Education says, "Carry the study through college." The curriculum, when set up, should provide a place for developing the idea that no one is educated who lacks

[1] Wolfe, Jack. "Mathematical Skills of College Freshmen in Topics Prerequisite to Trigonometry," *The Mathematics Teacher*, XXXIV (April, 1941), p. 164.

[2] "Mathematics Power Tests Series" which I have devised for use with students in the junior high school through the first year in college.

[3] Reeve, William David. "The Need for a New National Policy and Program in Secondary Mathematics," *The Mathematics Teacher*, XLVIII (January, 1955), p. 9.

acquaintance with our mathematical heritage. Too often it is said that science has outstripped our social knowledge, when the truth is that social studies and affairs need more scientific method and quantitative and exact thinking. Special instruction for the superior student must be arranged even if it means organizing a separate school, or a school within a school. Homogeneous grouping based on mathematical proficiency appears a necessity if any really effective teaching of mathematics is to be accomplished. Social promotion must be re-examined and practices with regard to it revised for the mathematics phase of the curriculum at least.[4]

Intensive studies of the errors which students make and why they make them show that, year in and year out, there are different students passing through classes making the same types of errors, and often the same errors are made in different grades by the same students. The students may or may not change; the errors change not. Mathematical errors of students are psychologically revealing: they show poor teaching methods, they indicate needed curriculum revision, they are exceedingly important as a basis for evaluating the individual's achievement, and they show the individual's lack of understanding. Thus for a maze of complex reasons students make errors. Like a signboard, these errors point toward public-school curriculums, mathematics textbooks, colleges, high schools, elementary schools, teachers and students, as well as, incidentally, toward society itself—toward the home and parents themselves.

Mallinson lists what he calls the five most needed research studies in the teaching of science and mathematics.[5] He agrees with Reeve that identification of the mathematical concepts to be taught and their arrangement in a teachable pattern is one of the pressing problems of the present. Carlton, Gager, Kokomoor, and others at the University of Florida have made a good beginning with a new curriculum from the seventh through twelfth grades and a new set of textbooks spiraling upward through basic concepts. Twenty years of trial at Phillips Exeter Academy tend to indicate that time is wasted devoting a year and a half to Euclidean geometry, beautiful and valuable as it is, when it might better be spent in other ways. A remodeled curriculum might allot, say, six weeks to Euclidean plane and solid geometry, followed by analytic geometry, in which traditional theorems are proved by analytical methods more easily and quickly, and geometrical analysis is introduced to the pupil. Thus, time may be saved for an introduction to the calculus (Who says a person is educated who has not been introduced to the calculus?) and for eradication of errors in arithmetic and algebra, which the good pupil will need as much as the poor pupil.

In this new curriculum some mathematics should be required of every pupil every year if for only an hour each week. The content of high-

[4] In a new curriculum, provision should be made for the use of television and correspondence study; for instance, an accelerated mathematics course could be made available to serve the brilliant student or to improve the teacher's background. Badly needed in-service training could be provided for teachers by television.

[5] Mallinson, George G. "The Five Most Needed Research Investigations in the Teaching of Science and in the Teaching of Mathematics," *School Science and Mathematics*, LIV (June, 1954), pp. 428–30.

school courses, certainly, must differ from traditional courses greatly on the attractive side and on the side of interest, because pupils, parents, teachers, and principals will not accept the customary rate of failure in such subjects as algebra and geometry. For the pupil of modest ability, the curriculum cannot be the traditional one of algebra, geometry, and so forth. On the other hand, definite provision must be made for the brighter pupils with interest in the sciences to receive a mathematical training which probably should differ from the usual practical mathematics of insurance, meter reading, and the like, and should have incorporated into it a beginning of analytic geometry and calculus, even in the high school. For a scientist the latter are practical subjects. There should assuredly be included the simpler theories of inductive statistical analysis together with a minimum of other mathematical concepts, such as the Pythagorean theorem, which are repeated yearly so that they will not be lost. Any young person should find an interest in the statistics of the normal curve and its myriad of fascinating applications to intelligence and many biological measurements.

No place in the curriculum has yet been set aside for regular testing for repetitive errors nor has a regular program for correcting them been arranged, as a general rule. Many of the findings of testing indicate that pupils make the same type of errors, often identical errors, from the seventh grade straight through sophomore year at college. Pupils are unaware of the many errors they make habitually; they think their procedures are correct and will argue so when they are actually wrong. Being oblivious of their errors, they must first, as it were, be convicted of the particular error before the error can be eliminated. It must be submitted to the pupil with the implicit, "Do you do this?" Having put a finger on the weak point, the teacher has a place of departure for his explanation. But errors are pertinacious. It is much harder to eradicate them than to teach the right process in the first place. Many studies bear out the necessity for a testing program of the type indicated. Fortunately, this type of testing can be done by the pupil even to the correcting of his own paper so that the teacher is relieved of this labor.

THE term "general education" needs redefining, for it seems to have different meanings for different people. However, what its effects in practice have been is obvious—the partial exclusion of mathematics from the curriculum as an impractical "stepchild." As a result, many pupils reach college with a high-school diploma and no mathematics whatsoever; most take just one course, fewer take two courses, and just a handful take three courses, including the most practical of all, trigonometry. From this situation two facts stand out: First, many college Freshmen, after twelve years of the study of their native tongue, still cannot express themselves lucidly, to say nothing of grammatically, either in written or oral English. The same deficiency seems to hold concerning knowledge of American history, ability to think logically, or of almost any subject or ability that can be named. Second, after the student has been exposed in public school for twelve years to courses and subject-matter which he

has not learned, possibly will not learn, and perhaps cannot because of lack of inclination or force of habit, the college then proceeds to repeat these same courses which were taught unsuccessfully in high school. The increment of success of teaching at the college level has not been publicly determined. The question arises, Why repeat subject-matter which many students have demonstrated an unwillingness to learn? Before any change in teaching results can be expected, there must first be effected a change somewhere else—either in the student, with a change of heart, or the subject-matter, its presentation and presenter. The technical student, particularly (pre-engineering, pre-scientific, and the like), fights further exposure to these general subjects at the college level.

The worst part of the whole emphasis upon general education, to the neglect of the specific or technical, is that those pupils in high school who are capable and desirous of obtaining a thorough mathematics background very often do not have the chance to obtain it. The reasons appear in this paragraph and also throughout this article. It bears repeating that, in the light of the far-reaching ramifications and uses of modern mathematics, "general education" needs a redefining and a new emphasis.

MacLane of the University of Chicago and others have pointed out the failure of secondary-school teachers to be acquainted with the existence of modern mathematics and the consequent failure to include it in the curriculum.[6] Because of its close correlation with modern science, the beginnings of the teaching of postulational mathematics for the bright is a necessity. Perhaps an introduction to it might constitute one phase of a television course for the teacher and superior pupil. Two cautions should be observed here, however. Postulational mathematics must not be attempted with dull pupils. Adding these new concepts will mean less time for manipulative skill. However, accelerating the bright pupils should make time available for devoting to the dull pupils.

Colleges have placed too much emphasis on education courses to the neglect and detriment of mathematics—the learning of its content and how to teach it. They have not even determined within reasonable limits what the best curriculum for a prospective teacher is. It seems likely that a little more teaching experience before the embryo teacher takes extensive education courses would be decidedly in order. How can a young person who has never tried to teach understand what the "methods" in teaching really signify? In high schools, frequently pupils are not even informed of their possible need for mathematics in college and later; in "career days" mathematics is often omitted as a career, when all other professions are represented. Mathematics is the one subject which when left out in high school cannot very well be made up in college. Imagine, for example, an engineer beginning in college to learn his arithmetic, as some of them try to do. Principals in high school seem to have no qualms about assigning English teachers to teach mathematics, whereas they would never consider doing the converse. History teachers and coaches sometimes teach mathematics and

[6] MacLane, Saunders. "The Impact of Modern Mathematics," *Bulletin of the National Association of Secondary-School Principals*, XXXVIII (May, 1954), pp. 66–70.

frequently do a poor job of it. Homogeneous grouping on the basis of emotional factors as well as intelligence seems to be a necessity. Too often teachers at all levels do not fully understand the mathematics they are trying to teach. Students, on the other hand, have trouble because of failure to determine, in attempting a problem, what it is they are trying to do and what they have to do it with. A good admonition to them is, "See what you are doing. Do it. See what you have done."

BEFORE I considered making tests for the placement of college Freshmen and the diagnosis of their errors, I searched the literature to discover whether there was already available an adequate test for these purposes. Examination of Buros' *Mental Measurements Yearbook* and other studies, plus my own experience, gave me no reason to think that any test had been published for doing an adequate job of determining mathematical ability at the college freshman level. Correlations between available test scores and college marks in mathematics ranged, for the most part, in published studies—and I read all of them in the library of the U. S. Office of Education in Washington, D. C.—from .5 to .6, and only once or twice above that figure. Statistical theory declares that a linear correlation of .5 indicates an accuracy of .25 (that is, 25 per cent of the variation is accounted for by the variation between the college mark and the test). In my opinion 25-per cent accuracy was an extremely slender confidence limit upon which to base any conclusions about how well a student could succeed with college mathematics, and would be a poor basis for guiding the student in his mathematical course.

I rejected the multiple-choice form when I devised the Mathematics Power Test, because many of the tests mentioned in the previous paragraph had been multiple choice in form and they were inadequate, as far as I could see, or as far as any investigator could determine statistically. There must have been something wrong with multiple-choice items as predictive tests in mathematics if they turned out to have no greater accuracy for that purpose than 25 per cent. The multiple-choice situation in mathematics is an artificial one, because the answer to a problem in real situations is unknown until it is worked and checked, and you are certainly never faced with the necessity of choosing the right answer from among a group of four or five possible answers. In addition to being artificial, such multiple-choice problems make it possible for the student to get the answers to some test problems without solving them. He can just plug the answers given until he hits the right one, or he can make a shrewd selection or even guess the right one. Some kind of a change in test format and directions did, therefore, appear to me to be in order. Since the multiple-choice item seemed not to conform to a real mathematical situation, I devised directions which would be meaningful mathematically.

The tests which I devised have been used with success at Pensacola Junior College for diagnosis, orientation, and the placement of college

NOTE: The author included a bibliography comprising 37 citations which we were unable to use because of limitations of space. The Associate Editor will send a copy to anyone who asks for it.

Freshmen. Major phases of the first two tests involve following directions, a tremendously important ability in mathematics. The tests are designed to measure mathematical maturity or power.

The first part consists of checking arithmetic processes; following directions; selected addition, subtraction, multiplication, and division items; and certain operations with parentheses, signed numbers, and zero. The directions stipulate that for each correct part of a problem place a "+" in the blank to the right of it. For each incorrect part place the correction at the right. Note that there are sometimes three parts marked *a*, *b*, and *c*. The first trial example is

$$(50-25)\ (30-35)=(25)\ (-5)=-125$$

in which (25) is *a*, (−5) is *b*, and −125 is *c* and each, if the directions are followed, should be marked by a "+" in the appropriate columns at the right.

Throughout the second part of the test the purpose is to see whether or not the student recognizes when an operation is ordinarily considered to be completed. The complicated directions add to the difficulty of the test and serve to provide the prototype for a situation frequently faced; namely, that of keeping mathematical directions or a mathematical model in mind while carrying out arithmetic or algebraic operations. The first three items in the test follow:

1. $15-8=-7$
2. $7^2=5(7)$
3. 67.548 rounded to one decimal is 67.6

In Test II–A the student is asked to respond with W, I, C, or ?, depending upon whether the problem is "wrong," "incomplete," "correct," or "has no answer." These categories were selected because I thought they were significant in problem solving in mathematics, for in learning mathematics it is vitally necessary to follow directions carefully. The student must keep a model in mind while he performs arithmetic or other operational processes. The ability to follow directions is tested in all these tests. A paramount question in all realistic situations is, Can the student follow directions and can he remember the directions while he performs required operations?

I have also had in mind on my tests certain difficulties which students periodically encounter (all students, good or poor) to a greater or lesser extent. One of these is that students will not or cannot check their answers or estimate them in advance. Many will not even check to be sure that they have copied the problem correctly, or that they have read it with understanding. On my tests I have presented situations each of which requires the student to work against the possibility that the given answer is *wrong*. He must check it and he must work it, or almost work it, in order to check. Contrary to the multiple-choice type, in my tests the right answer or the complete answer is not always given; there even may not be an answer to the problem. Students certainly cannot work my problems by finding a likely answer among a group of answers and plugging to see whether or not it is right.

Another chronic deficiency of students, which is covered in my method of testing, is their failure to carry any given problem to what can sensibly be considered, and usually is considered, completion. The students

will stop, often, in working a problem, just short of what might be an answer in good and simplest form. For instance, students often fail to add two fractions which could easily be added. Because no one sits beside them and tells them to do so, they do not add. This is *not* a minor matter. It is at the basis of much student difficulty and it is covered on my tests—covered thoroughly. I am testing students' habits or propensities for completing problems or taking them to the simplest form.

Furthermore, the test items should conform to a life situation, and do on my tests, as nearly as possible. Not all problems have answers on my tests, since not all problems have answers in real life. (There may not be enough data given for the solution to a problem in life.) Tests and teaching should conform to real life and should include problems for which there is insufficient data and no pat answer. A problem may not be rational; its parts may not fit together. Such problems should appear on tests—if the tests are to mean anything.

Another great trouble with students, in fact, with everybody, is that they tend to jump to conclusions instead of thinking to them. If a situation looks plausible, a student will accept it, uncritically. I bring to them on my tests certain very reasonable-looking situations on which the answers supplied are wrong. The only way to determine that the answer is wrong is by disregarding the obvious and thinking beyond what common sense seems to dictate. The student who jumps to conclusions will be caught up on my tests.

An important factor for success in mathematics is the ability to consider, and habit of considering, all the reasonable and logical possibilities in a situation. This necessary ability must be included in tests and must be emphasized in instruction. I have done so.

Why don't you group all problems by topics? I mean, Why don't you put all addition together, all multiplication, all equations, and so on? is another question I am asked. The answer is: Heterogeneous grouping conforms to a real situation. You seldom have problems, which are all addition in life situations. If you did, you would usually do them by machine.

The power test form (meaning, of course, that there are different levels of ability and that the test is untimed) was selected so as not to handicap a certain methodical type of individual who seems to make the best mathematician. This persistent type of original mathematical thinker will not leave a challenging mathematical problem until he has a satisfactory answer. On a timed test he tends to give leisurely consideration to a puzzling problem and, as a result, his score suffers. There are people of this kind who would not be penalized on a power test as they are on a timed test.

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NOTE: Anyone wishing a copy of the Mathematics Power Test which is discussed in this article may receive one without charge by writing to the author at 741 West Mallory, Pensacola, Florida.

Certain Cost Concepts

By HARDING B. YOUNG

The Application of Them to the Budget Problems of the Small College

IF BUDGETING is to represent an effective method of financial control in the small college, adequate standards for framing the budget must be determined. As a college is primarily a spending institution, a thorough knowledge of costs and expenses is necessary for the development of such standards.

The words *cost* and *expense* can be defined in a number of different ways and often are used interchangeably. Here we shall think of cost in a decision-making sense; that is, not only as cash outlay or price, but as anything requisite to attaining the desired objective. This might include labor, time, self-denial, loss of good will or loss of an equally attractive alternative. By expense we shall mean those costs or commitments for a budget period, operating costs as well as write-off of capital expenditures.

The term current operating costs refers to those costs involved in carrying on the educational program for a fixed period of a budget. Usually they are thought of as applying to a period of one year. Capital costs, on the other hand, refer to outlays for non-expendable equipment items, as for example, land, buildings, and other property, the usable life of which may be several years. The portion of capital costs applicable to the budget period would be designated as depreciation. Another way of referring to this type of cost would be "book costs," since they do not require current cash outlays as do current operating costs. This statement is made on the assumption that administrators of small colleges depreciate plant and equipment. Perhaps a more appropriate way of describing these costs would be "ignored costs" since most small colleges responding to a questionnaire indicated that they did not record depreciation. Regardless of name, the total operating costs of a college for a budget period is the sum of other operating costs and the write-off of capital expenditures.

As budgeting itself is a standard for future performance, future costs are the relevant costs. A review of uses to which cost information in a college can be put argues strongly for an appraisal of future costs. A study of several small colleges suggests the following uses of cost information: cost reduction and economy in total operations, fixing the optimum size of the college, budgetary allocations to departments, objective standards for setting student charges, and the appraisal of capital expenditures—all of which are necessarily future projections. According to Mr. Dean:

> For expense control, cost forecasting is necessary for setting scientific standards that will realistically reflect the operating

conditions that will govern the level of costs during the future accounting period for which the budget is set. The essence of expense control is to have a plan or standard by which performance can be judged. The budget expense must therefore be a forecasted expense to fit the future conditions.[1]

This is not to imply that past costs are unimportant in managerial budgetary decisions:

. . . There is, however, a current tendency to discredit the use of historical costs in arriving at an understanding of cost relationships and for purposes of budgeting and standard setting. To be sure, it is naive to assume that what has happened in the past is bound to happen again in the future, or that past costs necessarily represent the most desirable cost standards. On the other hand, it seems equally naive to ignore past experience completely. The least that can be said about past experience is that it provides data against which standards proposed for the future may be checked, and departures from such experience should not be made without good reason.

The results of historical studies can always be tempered or adjusted by . . . a variety of assumptions to allow for current conditions or future expectations with respect to operations, prices, and costs. Standards should be changed when sufficient changes in conditions occur, of course, but it is helpful if they can be developed and reviewed against a background of demonstrated performance as measured by historical costs.[2]

IN A manufacturing enterprise variable costs are those costs which vary with changes in output. Fixed costs tend to remain the same for given periods of time and within fairly wide ranges of volume. Within a given time, fixed costs tend to vary per unit with output, that is, the more units produced the lower the unit share of fixed cost. In the small college, land, plant, and equipment are considered fixed costs as they do not vary in any given fiscal period with the changes in student enrollment. The costs of maintenance and operation, though they can be postponed, are also relatively fixed costs. They include such items as heat, light, and power; repairs and minor alterations to buildings; administration and supervision; janitor services, police, and watchmen. Others which are considered fixed by a number of business managers are general institutional costs, including such things as college musical organizations, publications and printing, institutional memberships, professional travel expenses, commencement, public relations, postage, receiving and storage, entertainment, telephone and telegraph.

The cost of instruction is a good example of variable costs in the small college. The more students enrolled the more instruction needed, within limits, of course. The size of the faculty is a function of the number of courses offered and the size of classes. One of the more pressing problems of the small college is the considerable inflexibility of this cost factor. In the small college the problem of the three-man department with enough class-hours to justify only two and one-half men (or less) is very real.

Actually in the small college it is rare to find what can be strictly labeled variable and fixed costs. The costs tend to lie in the gray areas

[1]Dean, Joel. *Managerial Economics.* New York: Prentice-Hall, 1951, p. 261.

[2]Nickerson, Clarence B. *Cost Accounting: Text, Problems, and Cases.* New York: McGraw-Hill Book Company, Inc., 1954, pp. 256–57. (Harvard Problem Books).

somewhere between the extremes. They might be more adequately described as semi-fixed or semi-variable. Let us for a moment consider a shoe-manufacturing process. Each shoe requires a certain amount of labor and materials. Such costs might be referred to as strictly variable. In the case of a college the nature of the costs depends on administrative decisions and not matter-of-fact situations. For example, salaries depend on general excellence maintained in the faculty, class size, course offerings, tenure—all needing administrative decision. Costs of supplies for instructional purposes are in a sense variable. Travel expense, though an instructional cost, may be fixed by administrative decision. Library expenses are semi-variable—the more students, the more copies of some books needed and the more wear and tear on books.

Just as some costs generally regarded as variable have fixed elements so do some fixed costs vary. Under operation and maintenance heat, light, power, water, repairs, and minor alterations would tend to vary with number of students enrolled. The cost of certain student services would be semi-variable and, depicted graphically, would describe a step curve; for example, registrar's office expenses vary when more students are enrolled because more clerical assistance is required. The expense of student personnel staff, deans, and counselors would represent the same type of cost, and so would student health service. Certain staff benefits, such as teacher retirement, social security, and the like, vary with salaries and wage changes. Over the long run costs tend to become variable, that is, the longer the period under consideration the greater the variability. In the short run salaries tend to be fixed, as discussed later, while maintenance and operation may be variable mainly because they are not on a fixed time or payment schedule.

ESCAPABLE costs in the small college are those costs which can be eliminated by retrenchment in faculty, travel, and the like. Some distinction should be made here between the concept of "escapability" and "postponability." In a number of college situations, when there is a shortage of operating funds, allotments for maintenance are reduced. Such a plan usually gives rise to large maintenance problems in the future. These costs are postponable only and not escapable.

Unavoidable costs might be described as those costs which arise as a result of, or in spite of, retrenchment decisions. For example, because of shifts in the major concentrations of students, enrollment in certain courses may be greatly reduced but the college may still be forced to retain such offerings. This is particularly true in some small land-grant colleges. To qualify for Federal grants the college must maintain a certain minimum faculty and course offerings, yet enrollment may be extremely low and per student cost of instruction high. Such costs are unavoidable.

In a manufacturing enterprise direct costs are those current expenses which are directly traceable to the finished product. For example, as in the case of the shoe manufacturer, costs of such materials as leather, thread, and soles, and labor directly associated with the

manufacture of shoes would be considered direct costs. Indirect costs would be those which are not incurred exclusively for the manufacture of shoes, or if incurred for production, they are not identifiable, such as, supervision, general administration or overhead, and the like. By analogy, in the small college direct and indirect costs can apply to different departments. The direct costs of the department of chemistry are the costs of instructional salaries, supplies, travel, and administration. The costs of general administration, maintaining the library, and repairs and maintenance on buildings are considered indirect costs because they are for the benefit of the whole school and would remain if the department did not exist.

Differentiation between these costs is important especially when considering whether or not to take on research projects for government or industry. If the project will cover the direct costs and make some contribution to overhead, it may be taken on. Or, if the research will utilize the time of faculty who must be retained but who are not currently carrying a full work load, the project may be warranted.

Decision making should take into consideration incremental costs also. Incremental costs are those incurred by the setting up of additional units without an increase in indirect costs. This concept is useful in fixing the size of a college enrollment. College A, for example, has a current enrollment of twelve hundred students. Due to commitments to faculty and staff the officers estimate that two hundred more students could be admitted without incurring additional indirect costs and only five new instructors would need to be employed. Here the incremental costs would be the salaries of the new teachers. The cost of the other teachers is fixed, and should not be considered in making the current decision. Theoretically, affirmative decision in such a case could be made until incremental costs exceeded average costs. This, of course, is ignoring quality considerations with respect to size of class, student-instructor contacts, and such. On the other hand, suppose the college is operating at maximum efficiency in terms of enrollment. The admission of two hundred students may mean two sections of some courses where one has been sufficient. Since it could happen that the number of students in different sections may decline, incremental costs per course may rise. In this case the decision on admitting additional students would have to be made on the basis of matching incremental costs with incremental revenue.

THIS matching of cost and revenue has been found useful in a number of instances by college administrators interviewed by the writer. A few of these situations will be discussed here.

Psi Nu College presently (1954) has an enrollment of one thousand students. Recently it was faced with the problem of deciding whether to expand to help meet growing needs. The student body, a highly selected group, comes primarily from preparatory schools and represents the upper-middle to higher income groups.

Aside from the "educational consideration, including size of classes, contact with teachers, coherence of educational atmosphere and the like, and social considerations, including contact between

students and students and between students and faculty, and a comprehensible social milieu," the practical and measurable item of cost was considered.

Although the cost estimates were arrived at in a very rough way they served as some basis for the decision. The administration felt that it would not be wise to go to the expense of any accurate cost estimates since the situation was so clear in its general outline. The president estimated that presently the plant was being used almost to capacity, and that (approximately) the replacement costs of the plant and equipment were about $30,000,000, including books, collections, and laboratory equipment. To increase the college enrollment by 50 per cent and provide comparable equipment, he figured, would probably cost about $15,000,000. The president also saw a need for increased endowment should the college be expanded. Presently the endowment has a market value of $30,000,000, which he figured should go up *pari passu* with enrollment. This would require another $30,000,000. He figured that it would be possible that, by planning and economizing, the requirement of $30,000,000 might be reduced measurably by one third. Not only did the president feel that this reduction possibility was unlikely but that Psi Nu could not find financing of this magnitude by any stretch of the imagination.

Epsilon College determined its size for maximum efficiency at twelve hundred students. It is a liberal-arts college for women located in the West. The student body, a highly selected group, comes primarily from the surrounding area and represents upper-middle income groups.

It was figured that the costs of increasing the student body would not only be direct costs of additional faculty members and instructional supplies and equipment, but capital costs of expansion of physical plant, especially for dormitories. Presently the college is examining the housing problem. According to the controller, some of the students are not comfortable due to crowded conditions. Aside from the capital costs required to expand enrollment, the business manager also figured an increase in indirect costs. As more buildings are constructed, the higher the maintenance costs become.

The business manager was also concerned about incremental costs in his considerations. The feeling was that a student increase might not be proportionate to required faculty increase thus causing higher average costs which might necessitate another increase in tuition.

THERE is no better way of beginning a cost reduction campaign than by learning what actual costs are—the nature of costs, what costs are controllable, and where reductions can be made. It is the dynamic use of cost information that counts.

One small college in the study found that its secretarial expense was getting excessive and was out of proportion to faculty salary expense. As a result of analysis of cost information the decision was made to organize secretarial pools. It was discovered that a number of secretaries, because of the nature of their work, were not being efficiently used. Aside from this, when professors were out of town their secretaries, though not fully occupied, were not transferable. By having most of the secretaries (president's, dean's, and registrar's secretaries excluded) report to the pool, secretarial expense was reduced and kept under control. Such a step obviously cannot be taken without considering certain human problems.

One university found that its telephone bills had increased and took steps to reduce the expense by reduc-

ing the number of telephones on the campus.

To render the greatest amount of service, a college must incur costs only when they are warranted. A knowledge of, and use of, cost information can help assure this objective. Because one department has been given a certain budget allocation over the past several years is no good reason it should continue to be so favored. The costs of another department may be so pressing and the chances for rendering service so apparent that help should be directed toward it. For example, the bursar of one small college felt that it was extremely difficult to judge the merits of some requests, especially if one were a request from the science department. In recent years the study of atomic energy and electronics has necessitated a re-evaluation of the allocation necessary to support the kind of science department desired by the college. A knowledge of costs is an aid in framing policies so that proper support can be given to every department.

A knowledge of costs enables management to direct attention to those which are more difficult to control. One small college attempted to get information by certain comparisons—comparison of actuals over a certain number of years, of actuals with budget, or of actuals with actuals for similar months of different years. Field research revealed a variety of reactions toward such methods of control. One business manager thought that these comparisons were not useful in his institution as the enrollment was so changeable. Another felt that it was indispensable in keeping certain expense under control. But a comparison of actuals with actuals and actuals with budget can be valuable as a cost-controlling mechanism provided variances are analyzed properly. Such things as differences due to price rises, inadequate budgeting, and controllable costs can be brought to light. Such comparisons as of one institution to another must take into consideration similarities and differences between the institutions.

In order to get a clearer understanding of annual operating expenses, Upsilon College makes long-range budgetary forecasts of income and expenses. Each year these forecasts are revised to reflect any changed conditions, such as increase in endowment, variation in enrollment forecasts, erection of new buildings, added personnel and services, and price changes in items to be purchased. An increment of fifty students is used as a unit in estimating the effect of changes in enrollment on total income and the expense rates that could be supported by different levels of enrollment.

As a basis for the long-run forecasts, a review is made of past costs to get some idea of cost relationships to units of student enrollment. Also the study of past costs enables the business manager to understand better the college's cost situation, areas of strength and weakness, and any unfavorable trends. For example, it is known that within limits, the expansion of student enrollment necessitates additional faculty and perhaps new facilities. The attempt is made to determine at what point these additions will be required. It is also known that certain other expenses

[*Continued on page 116*]

· With the · Technicians ·

Are Self-Studies Worth the Effort?[1]

One of the evaluation and motivation techniques which has gained considerable popularity in college circles during recent years has been the self-study. This device has been encouraged both by accrediting agencies through their requirements for membership application and by philanthropic agencies through grants awarded for the purpose of improving the quality of college work.

These self-studies may require the participation of from one-half to virtually all of a college administrative and instructional staff and usually last from one to two years. In view of the many other demands made on college staff members and of the increasing enrollment which colleges must somehow accommodate, the question might well be raised: Are self-studies worth the effort?

My answer to this question is based largely on my observations as coordinator of a recent self-study project at Southern State College of Arkansas which was made possible by a grant from the Fund for the Advancement of Education. The preliminary planning for the study extended over a period of about nine months and the study proper took a full calendar year.

The obvious outcomes, that is, the actual findings of the study, were largely specific to Southern State College and a number of the findings have already contributed to changes in policies and practices of the College. These findings alone might justify the effort required by the self-study, but it also revealed other findings which seem worthy of consideration by any college contemplating a similar project.

It is the potentialities for additional benefits which a self-study holds that I wish to discuss. Attainment of some of these less tangible outcomes might very well be of greater ultimate value to a college than finding answers to the specific questions identified for study. There is an old *cliché* which says in effect that work never killed anyone, that such things as worry, boredom, and other distractions are the real enemies of on-the-job efficiency. This position is surely not without foundation. For example, I recall my wartime teaching experience in the military service. When every instructor was teaching a maximum number of classes, nobody complained about his load and morale was high. But if in periods of slack enrollment there was only one class for each instructor plus three extra classes, you can be sure the instructors who were assigned the extra classes spent a good part of their time in self-pity and other energy-sapping deportment.

In many college situations today, the fatigue of staff members is not caused by overwork but by lack of purpose and properly defined objectives. Colleges have a variety of problems and these problems may be

[1]Reported by Francis Stroup, Southern State College of Arkansas.

observed from many points of view. This divergence of view can make the problems appear unrelated, generate a fatigue-producing confusion, and even become a threat to the stability of the institution.

A well-planned self-study can encompass many of these problems, place them in an ordered relationship, and provide a point from which a concerted offensive can be launched. The statement of purpose of the study serves to identify a common "enemy" and foster a sense of unity. The tangibility of a structured plan involving a time schedule affords a standard by which progress may be gauged with a resulting sense of group achievement. These things all add up to improved staff morale and more efficient institutional operation.

Another potentiality of a self-study is the opportunity it affords for awakening dormant ideas. I dare say that on every college campus there are staff members with ideas they would like to express, grievances they would like to air, experiments they would like to conduct, and problems on which they would like to collect more data. But these ideas frequently remain dormant because the campus atmosphere does not offer enough encouragement to individual initiative and effort. Under the impetus of an institutional study and the promise of college-wide consideration of the results, these ideas can become subjects for concerted study and thus give satisfaction to the one who harbored them as well as provide information contributing to improved decisions related to the problems.

Even in the most democratically operated institutions there is hesitancy on the part of individual staff members to make suggestions which might be construed as criticism of a superior —particularly if the area under consideration is not considered a direct responsibility of the one voicing the criticism. However, members of a committee working on an assigned problem as part of an institutional study need have no hesitancy in making whatever recommendations seem justified by the evidence they gather. Such recommendations, no matter how badly needed, might never be made without a formalized study.

Working in departmental groups college professors or specialists frequently achieve consistency of thinking within the group but make no effort to establish interdepartmental communication. A self-study committee with members chosen from several departments and investigating a problem of concern to all of them can do much to broaden the perspective of its members and to familiarize them with over-all operational problems of the college. Such committee activity promotes interdepartmental acquaintance which can foster mutual respect and facilitate solution of future problems of an interdepartmental nature.

While the problems identified for investigation in a self-study program are usually specific to the institution involved, they are frequently broad enough in scope to encourage accepted techniques of scholarly investigation. To senior staff members with completed doctorates, committee service offers opportunities for leadership and for the application of previously acquired skills to a tangible problem of immediate interest. To junior staff members, committee membership can offer opportunities for participa-

tion in seminars and for research planning which should both encourage and facilitate later advanced study. For both senior and junior members, this is in-service training which should increase their competencies and their value to the institution.

Certainly a self-study is not a cure for all of the ailments a college may possess. Like any evaluation and motivation technique, the self-study has its limitations. And when used excessively, its benefits—like those of other such techniques—are subject to the law of diminishing returns. But used with proper discretion and seasoned with judgment, the self-study holds potential benefits—both tangible and intangible—and can be an effective instrument for inducing college improvement. Under such conditions it is certainly worth the effort.

College Teachers and Teaching[1]

Widespread interest in topics related to college teachers and college teaching is indicated by the fact that individuals connected with more than four hundred educational institutions have written books, monographs, dissertations, or articles in these fields during the past twelve years. This conclusion is based on an analysis of the citations in an annotated bibliography of 2,665 titles, "College Teachers and College Teaching," which the writer prepared at the request of the Southern Regional Education Board.[2]

This bibliography, except for a few titles, is limited to publications appearing during the years 1945 to 1956. It covers such topics concerning college teachers as their training, recruitment, economic status, professional growth, promotion, and retirement. With reference to college teaching, it includes publications dealing with teaching conditions, such as class size, teaching load, teacher rating, and evaluation of learning; general teaching methods, such as audio-visual, case, discussion, individual, lecture, and seminar; and specific methods of instruction for 33 special fields. The bibliography is concerned primarily with teaching methods, not with the content or organization of the curriculum. Had topics in the curricular content been included, the number of entries would have been greatly increased.

A feature that is very rare in published bibliographies is the systematic effort to indicate the institutional connection and the professional standing of the author of a book or article at the time of its publication. It is important to know not only *what* is said but *who* it was that said it. It was possible to furnish such information for more than 98 per cent of the authors. There were less than two hundred unsigned publications. These were more than offset by two hundred and more citations of multiple authorship. Also, an analysis of authorship includes many cases in which one writer was responsible for more than one item in the bibliography.

Twenty-three American universities and one college are credited with 20 or more authorships each. Six institutions are each responsible for 50 or more; the University of Minnesota leads with 84. Following is a list of these institutions, with the

[1] Reported by Walter Crosby Eells, Washington, D.C.

[2] "College Teachers and College Teaching: an Annotated Bibliography on College and University Faculty Members and Instructional Methods." Atlanta, Georgia: Southern Regional Education Board, July, 1957. xiv+282 pp.

number of authorships credited to each:

Universities	Number of Authorships	Universities	Number of Authorships
Minnesota	84	Missouri	38
Chicago	77	Harvard	35
California	62	Iowa	31
Illinois	62	Syracuse	31
Columbia	60	Indiana	30
New York	59	Stanford	23
Purdue	49	Cornell	22
Michigan	47	Northwestern	21
Pennsylvania State	46	Washington	21
Michigan State	43	Pittsburgh	20
Texas	41	Wisconsin	20
Ohio State	39	Sarah Lawrence College	24
		Total	985

The remaining 389 institutions were distributed as follows:

Number of Articles	Number of Institutions	Number of Authorships
15–19	10	165
10–14	16	195
5– 9	53	356
4	19	76
3	50	150
2	102	204
1	139	139
Total		1,285

Most of these institutions, of course, were American, but 21 were located in foreign countries, including 11 in Great Britain, 4 in Canada, 2 in Australia, and one each in Ireland, Israel, the Netherlands, and Turkey.

The institutional connections just summarized account for 2,270 or 85 per cent of the total number of authorships. The others may be classified as follows:

	Number of Agencies	Number of Authorships
National and regional agencies	32	121
United States agencies	13	122*
Educational foundations	8	62
State and city departments of education	10	35
Commercial organizations	17	24
Miscellaneous agencies	33	41
Total		405

*U.S. Office of Education furnished 90 of these.

One-Half of University Students on Government Scholarships[1]

More and bigger scholarships may attract more and better students to American colleges and universities. This and other countries have a need for well-trained persons in the social and natural sciences, engineering and mathematics, medicine and related occupations, teaching, and other professions. At present perhaps no more than two out of every three bright high-school students continue their formal education after secondary school. The reasons for this one-third cessation rate are complex and involve not only the economic resources of the student but also his and his family's attitude toward education, his experiences in high school, the adequacy of the guidance he has received, and the prevailing mores of his friends and community groups.

Proposals constantly are being discussed to alter this situation through the modification of existing scholarship programs or through the development of new ones. The attempt to centralize scholarship applications by the College Entrance Examination Board is one example of this; bills proposing scholarships frequently introduced into Congress are others. At present, a relatively small proportion of our university and college students have scholarships of any kind; an even smaller proportion receive a direct subsidy from the Federal Government.

Our experience with a broad-scale Federal scholarship program in the United States is limited to the G.I. program after the Second World War

[1]Reported by Ralph F. Berdie, Student Counseling Bureau, University of Minnesota.

and the Korean War. The impressions remaining from this program were favorable, but in light of the "atypicality" of the G. I. student and the postwar period, only limited generalizations can be made.

A review of a government scholarship program in another country may assist in the current discussions of possible federal scholarship programs. In Australia the Commonwealth Scholarship scheme began in 1951.[2] Under this program, three thousand new scholarships are made available by the national government each year, these scholarships being allocated to the states on the basis of population. Nine thousand and seventy-four scholars in 1954 were receiving benefits under this program, of whom 87 per cent were university students. New awards were given to 2,678 students; the remainder were granted during previous years. Of the 2,678 new awards, 2,290 were to new students, 388 were to students in the second or later year of their courses. The cost of this program to the Commonwealth Government was £990,540, or at the current exchange rate, approximately $2,228,715. This included cost of fees, living allowances paid, and cost of administration.

The policy of the program is the responsibility of the Universities Commission, a four-man group which meets about four to six times a year. The Commission also has other responsibilities. The administrative work of the program, including selection, payment, supervision, and guidance of scholars, is done by the Education Departments of the six states of the Australian Commonwealth.

[2]The data used in preparing the remainder of this paper were taken from "Annual Report, 1954" (Sydney, New South Wales: Universities Commission, 1954).

The methods of selecting scholars from the 7,699 applicants for new awards vary from state to state, but in general, the major selection device is subjective essay examinations prepared, administered, and graded by the universities for all students completing secondary school and wishing to attend the universities. These examinations cover the traditional high-school subjects, such as English, mathematics, Latin, German, chemistry, art, and ancient history, and each student is allowed to select those examinations for which he is prepared. English usually is required, and other requirements are enforced by the universities. For instance, a student planning on liberal arts in the University of Adelaide is required to take Latin. The University of Sydney requires either mathematics or a "major" foreign language.

Most of the last year in high school is devoted to preparing for these examinations, for without passing them students are barred from the university, as well as being unable to obtain scholarships. The examinations are given at the end of the final year, marked, and the first recipients are notified a month or so before the start of the university year. Some, however, may not learn of their award until weeks later. Needless to say, these examinations have a profound effect upon both the curriculum and teaching methods of the high schools.

In 1954, of the 7,699 persons who applied for new scholarships 3,470 were selected, of whom 628 relinquished the grant. Some of these took other scholarships available. Of the 2,842 who accepted the grant, 552 deferred, interrupted, or discontinued their education, thus leaving 2,290 in

training. Later, year awards were requested for advanced students with no previous grants by 1,186 students, of whom 404 finally were offered and accepted awards. These grants were based on university marks. One hundred grants, "mature age scholarships," were available to students who were twenty-five years and older.

The reliability of the matriculation examination is not a matter of public (nor perhaps of private) knowledge. Probably the reliability is no higher than that of other examinations of its type. The validity hovers in the range of that of the brief, objective, college-aptitude test. The failure rates in Australian universities are about 50 per cent, not much different from the United States average. This suggests that either the selection based on matriculation examinations is not very efficient, or that the university faculties determine student mortality rates regardless of the quality of students provided for them.

All scholars have their fees paid for them. A living allowance is paid on the basis of a means test, a scholar receiving the maximum when the total family income is £600 or less, approximately $1,350. Consideration is made of the siblings in school, the marital status of the student, and his own "vacation" income.

The average living allowance paid, in relation to the number of students receiving these allowances, was £144 in 1953. The average annual value of all scholarships was £109 (£67 for fees, £38 for living allowance, and £4 for administration).

Some restrictions prevail. All applicants must be examined for tuberculosis. Married women under twenty-one are not discriminated against, but in competition with older married women, men and single women are given preference. Scholarships are limited to undergraduate programs, but certain combined courses have been approved and a limited number of persons planning on taking technical or professional courses may first take liberal-arts courses.

The objectives of the scholarship scheme are to lessen the inequalities of opportunity at the tertiary level, and to provide for the training of persons to meet the needs of various professions. No attempt has been made as yet to direct persons into given fields, the assumption being that the attainment of the first goal will automatically lead to the second. The policy of allowing scholars a maximum of choice seems to be wise and one to be encouraged. Any scholar may change his objective once, and guidance officers are available to offer assistance.

University enrollments have increased more than threefold during the past twenty years, while during that time the number of persons in the total population of university age has actually diminished. The immediate postwar increase in part is due to the Reconstruction Training Scheme for returned service men, but this cannot explain the continuing increase. The influence of the Commonwealth Scholarship Program is not known and inferences are dangerous to make in light of corresponding increases in university enrollments in countries without such programs. Economic conditions, increasing complexity of technical and social problems, and

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·The·Reporter·

INFORMATION of interest to guidance and admissions officers and to teachers is contained in the *1957 Supplement to College Board Scores No. 2*, recently published by the College Entrance Examination Board. It presents the first data of its kind on possible connections between the proficiency of high-school Seniors in mathematics and foreign languages and such factors as outside reading and interests, class size, attendance at a public or independent school, skills stressed by the teachers, reasons for studying the subject, and plans for future education.

A TELEVISION institute in mathematics will be presented for high-school teachers by Northeastern University under the new series of scientific educational grants announced by the Esso Education Foundation. The grants totaling about $500,000 are going to eighty-four privately supported colleges and universities to stimulate the teaching of science and engineering at all educational levels. Northeastern's plan of instruction calls for a six-weeks series of live telecasts during June and July. Supplementary instructions, discussions, and examinations will be held at the University on Saturdays. The course will carry three hours credit.

THE third of three annual workshops on the Evaluation of Library Materials for Children will be held by the Graduate Library School of the University of Chicago on July 23–25, 1958. It will deal with library materials in the sciences, and will cover audio-visual materials and their use as well as printed matter. Enrollment is open to children's librarians in public libraries, and school librarians and teachers in elementary and junior high schools. Registration will be limited so that small groups can be established for intensive work with the materials on each of the several grade levels. Although course credit is not given for attendance at the Workshop, a memorandum testifying to successful completion of the work will be supplied to teachers and school librarians requesting it. Further information can be obtained from the Graduate Library School.

RE-EVALUATION of the introductory physics program at Rensselaer Polytechnic Institute began February 1. The project will require three years to complete and will cost approximately $240,000. A gift of $20,000 received from the General Electric Educational and Charitable Fund will help finance the study during the first year. The Board of Trustees has allocated the same amount.

Special methods for effectively teaching larger numbers of students will be devised, as will a separate program for maximum development of highly gifted students. To carry out these objectives, a program is under way to build new demonstration and laboratory equipment, to develop

special projection techniques, and to make use of the possibilities of an associated teaching museum of physics. It is also expected that two new textbooks and a new laboratory manual will result from the project.

A BOOK entitled *The Research Activities of the College Entrance Examination Board, 1952–1957* is available to research workers in psychology, education, and social sciences. It contains a nontechnical discussion of more than two hundred studies in the following areas: test construction and validation, college admissions practices, the nature of the pupil-candidate-student universes, the nature of the school-college universes, and programs of the College Entrance Examination Board. The purpose of the book is to inform researchers of the findings of Board-supported studies and to elicit suggestions concerning further research possibilities in which the Board may be interested. A copy of the book may be obtained from Joshua A. Fishman, Director of Research.

GRANTS and appropriations made by the Ford Foundation during the first quarter (October to December) of its 1958 fiscal year totaled $14,284,550. A grant of $253,000 was made to Berea College for a study of the problems of the Southern Appalachian Mountain region. The Educational Television and Radio Center at Ann Arbor, Michigan, received $100,000 for an inquiry into the future financial support of educational television. One million dollars was granted to Oxford University to aid in the restoration of its historic buildings, and a like sum to Harvard University for various international-studies programs. The Association of the Bar of the City of New York Fund, Inc., received a grant of $47,000 for a study of problems raised by Federal conflict-of-interest statutes in recruiting non-career government executives. Northwestern University received $300,000 for legal research and graduate and professional training in the fields of criminal law and criminology. Totals for various programs were: education, $138,000; economic development and administration, $1,437,100; international understanding, training, and research, $6,329,750; international legal studies, $421,000; urban and regional problems, $462,000; citizen participation in public affairs, $673,250; youth development, $150,000; science and engineering, $216,000; overseas development, $4,157,450; and miscellaneous, $300,000.

THE report of the first large-scale study of admission to British universities was recently published in London. The investigation was carried out under the auspices of the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom. The main purposes of the inquiry were to find out how common a practice it is for students to make application simultaneously to more than one university, the distribution of such multiple applications among the various subjects of study, the number of qualified applicants, the number of students actually admitted, and the number of university places available. The investigation was conducted among applicants who wished to enter the universities in October, 1955.

Some seventy thousand applications were received by the universities (not

counting those received by Oxford and Cambridge). On an average, each student from Great Britain and Northern Ireland applied to more than two universities or colleges, and each overseas student applied to one. The number of applications per person was highest in the Faculties of Medicine and Pure Science. The total number of applications represented some thirty-one thousand people, of whom nine thousand were women. About eighteen thousand, or 60 per cent of the total, were admitted at the beginning of the 1955–56 session; a third of these were women.

Copies of the report *Applications for Admission to Universities* may be ordered from the Association of Universities of the British Commonwealth, 36 Gordon Square, London, W.C.1. The report is also available on interlibrary loan from the library of British Information Services, 45 Rockefeller Plaza, New York 20.

Two experimental reading courses, begun this fall by the English Department of Rutgers University to promote understanding of the world's great literary works have received unanimous and enthusiastic endorsement from student participants. The experiment is supported by a special grant from the Ford Foundation. The two courses, Readings in the Novel, and Readings in the Drama, follow the same format. There are no lectures and only one meeting weekly. The meetings are alternately tutorial sessions, at which six students and an instructor discuss the reading, and special conferences in which the discussion is between the instructor and one student. Students receive a syllabus and reading guide at the beginning of the year and then are left free to plan their reading on a weekly or semester basis. The student's mark is dependent on a term paper and a final examination, the latter to be graded by a competent scholar outside the English Department.

A STAFF of experts which will conduct studies in some fifteen foreign countries has been announced by the Institute of Research on Overseas Programs at Michigan State University. The Institute was set up under grants from the Carnegie Corporation of New York to make an extensive study and appraisal of overseas programs being conducted by American universities. Countries expected to be included in the research are Bolivia, Chile, Ethiopia, France, Germany, India, Indonesia, Japan, Liberia, Mexico, Peru, Philippines, and Turkey, and perhaps Iraq, Thailand, and others.

The first phase of the research project, which will determine just how extensively American higher education is engaged in international programs, is nearing completion. Preliminary information gathered from 1,753 institutions indicates that 198 schools are conducting a total of four hundred and seven international programs. The projects range from government contracts and foundation grants, which result in significant numbers of American University personnel going overseas, to an exchange of library materials between an American and a foreign university.

A NUMBER of graduate fellowships and scholarships for 1958–59 are being offered by the Merrill-Palmer

School for the study of human development and family life. Students in anthropology, child development, counseling and psychotherapy, education, family-life education, home economics, nursing education, physical growth, psychology, religion, social work, and sociology are invited to apply. Scholarships covering the tuition fee ($225 a year) fully or in part are awarded on the basis of need. Fellowships of $1,000 for the academic year are awarded on the basis of merit. Supplemental grants may be awarded to married students on the basis of need up to a possible total of $3,000. A limited number of larger grants are available to advanced professional persons. Early application is advisable and should be sent to the Registrar.

A GRANT of $400,000 from the Carnegie Corporation has been received by the University of Michigan to support a new Center for the Study of Higher Education. The grant will cover a five-year period. The principal objective of the center will be to train administrators for colleges and universities. It will be directed by Algo D. Henderson, professor of higher education at the University since 1950. The grant will permit the financing of several fellowships in higher education which will permit selected young administrators, without loss of salary, to spend a semester or year at the University. Plans call for the selection of from three to seven fellows each year. They will take part in seminars in higher education, do research on special problems, or obtain internship experiences in a variety of administrative offices and institutions. The grant also will permit the University to assist doctoral candidates who plan to seek future administrative positions in colleges or universities.

THE seventh annual workshop on audio-visual techniques for foreign-language teachers will be held at Purdue University, June 16–27, 1958. The workshop is conducted by the Purdue Department of Modern Languages, and is designed for teachers of foreign languages at any level. Further information may be secured from Elton Hocking, Department of Modern Languages.

INCREASED interest in German language and culture is indicated on the campus of Pomona College by a number of recent developments. Ten students are living in the newly established *Deutsches Haus*, and have agreed to speak only German while in the house. Increased activity of the German Club, the establishment of an honorary society, and growing enrollment in German classes are other indications of the new interest in German.

AN INTENSIVE program designed to prepare college graduates to teach is being offered by the College of Education of the University of Bridgeport. The purpose of the program is to help meet the teacher shortage throughout the state. Upon completion of the course, candidates will be eligible for temporary emergency certification to teach in elementary schools, and also to register for the Master of Science degree in elementary education and for courses leading to professional certification as elementary-school teachers.

·Editorial·Comments·

A Time for Greatness

REPEATEDLY in recent weeks, newspaper writers, radio commentators, and men in public life have been telling us that the success of the Soviet Union in launching Sputniks I and II is a blessing for this country. They point out, correctly, that it has shocked our citizens and our government out of their complacent faith in our ability to maintain a scientific and military lead over the Russians and in the superiority of our educational program. As a result, the missile research and development program has been speeded up and financial support for scientific research and the training of able students in science and technology is pretty sure to be increased substantially. Whether government officials have yet shown the quality of leadership that is needed is in dispute.

Many higher educational institutions and philanthropic organizations have been far ahead of the general public and the Federal Government in recognizing the need for more effective scientific education for able students. The National Science Foundation, for example, did not wait for the Sputniks to inaugurate its Summer and Academic Year Institutes for Science Teachers; similarly, the Science Talent Search conducted by the Science Clubs of America through Science Service, and financed by the Westinghouse Educational Foundation, antedated the Russian satellites by several years. Moreover, these efforts on the part of educational institutions and foundations are increasing: nearly every mail brings one or more news releases announcing the establishment of new programs in this field or the enlargement of existing ones.

Necessary and urgent as it is, this increased interest and activity in training scientists and technologists is not without danger—danger of neglecting other needs which, if less urgent, are not less important in the long run. One of these needs is to provide much better scientific education for those who will not be specialists in either pure or applied science. If we are to be successful in the long competition for the minds and hearts of men that lies ahead, we shall need, not only to train scientists and technologists, but also to develop among our lay citizens a true understanding of the nature of science and its relation to technology. This task is in some respects more difficult than that of training specialists.

But good education in science for specialists and laymen is not enough. If America is to compete successfully with the Soviet Union, our citizens will need broad understanding in the field of the social and behaviorial sciences—anthropology, sociology, economics, political science, history, and psychology. If it is to serve the free world as it should, its people must have the best possible opportunity to gain the insights, appreciations, and satisfactions that the study of the humanities can provide. We must not only explore the exosphere but also understand the theory and prac-

tice of communism; we need not only intercontinental ballistic missiles but better and more sympathetic understanding of the cultures and aspirations of other peoples, particularly those of Asia, Africa, and the Near East; not only greater skill in mathematics but deeper understanding of human nature.

To provide the kind of education that the age demands will not be easy. It will require, first, a great deal more money than we have spent on it in the past. The greatly increased expenditures for defense, research, education, and other services will mean greater austerity—there will be less to spend on conspicuous consumption.

But money alone will not be enough: we shall have also to carry through major reconstruction of many of our educational practices. We shall need to regard attendance at college (and probably the upper years of high school) less as a birthright and more as a prerogative of those who have demonstrated the needed competence and interest. Our educational programs must offer fewer discrete subject-matter blocks of one or two semesters each and greater opportunity to "live with" growing bodies of concepts, facts, and skills over a long period. Instead of "taking" separate units of algebra, plane and solid geometry, and trigonometry, our students should have a unified, growing mathematical experience over a period of several years. Instead of studying a foreign language for two years, they must grow up with it. Above all, we need to work assiduously at the job of identifying our able young people, seeing that none of them is deprived of educational opportunity, and providing them the best possible programs.

These are some of the things that need to be done if we are to meet the demands of the space age. In facing these demands, we must accept a higher degree of regulation while safeguarding the fundamental democratic freedoms. We must find ways of providing adequate opportunity and challenge to the gifted without neglecting those of lesser talent. We must provide for the fullest possible intellectual development of our students without overlooking their need for well-rounded growth as persons. We must avoid both complacency and hysteria and manifest a steady, calm determination. This is a time for greatness.

R. H. E.

In Reply to "Human Time and the College Student"[1]

C. Page Smith deplores the time-worn marking system in American institutions of higher education and sharply criticizes the tests on which the marks are based. He seems to feel that college education is currently developing in an unfortunate manner, that teaching for marks instead of intellectual development is responsible for this, and that basing marks on objective tests is especially influential in what he regards as an unfortunate academic deterioration.

Probably all of us would agree with Mr. Smith that the proper evaluation of students is both tremendously important and extraordinarily difficult. However, many college teachers, including the present writer, cannot accept his wholesale condemnation of objective testing procedures.

Mr. Smith apparently feels that the alarming academic decline that he per-

[1] JOURNAL OF HIGHER EDUCATION, XXVIII (February, 1957), pp. 70–74, 116–17.

ceives can be halted only by throwing out most testing, beginning with the worst offenders—machine scored tests—and adopting some sort of tutorial system. Such a system is practiced with difficulty even in graduate departments numbering twenty faculty members to two hundred students, and seems much less possible of achievement at the undergraduate level with enrollments as they are.

On another point, I think his implication that marks are given only because the faculty demand them is unjust and, in view of his condemnation of marking, highly critical as well. Mr. Smith apparently chooses not to recognize that society finds many uses for marks—as in vocational selection, for example—and society pays for higher education. The faculty have no choice regarding whether marks shall be given, but only how they should be determined, and this brings us back to Mr. Smith's sharp rejection of objective tests.

Of course, there are limitations to the use of any type of test. The most impressive of the limitations on objective tests is that the item form does not easily lend itself to the testing of larger understandings such as the implications of historical events or of political or economic movements. A second criticism is that objective tests do not produce growth in ability to write creatively. The answer to these criticisms, however, in very simple—use other evaluative methods such as essay examinations and critical reports if these will help meet the course objectives.

Mr. Smith does not seem to feel there are any courses, with the possible exception of those in the scientific and technological areas, where knowledge of facts is a worth-while objective. Undoubtedly, most teachers would disagree with him. It is probably because of his rejection of the course objective of "knowledge of facts," that his comments on objective tests seem so completely beside the point. A great many teachers believe that for courses in which detailed knowledge of content is an important aim, objective tests are at present the most equitable, thorough, and economical means of testing.

Due to his confusion of testing with teaching activities, Mr. Smith is again beside the point when he charges that objective tests cause the able student to lose his "power of discrimination," and that "fragmentation" of learning created by frequent tests "seriously inhibits his intellectual growth and personal development." Such broad generalizations hardly seem supportable. Even if it were demonstrable that students suffer either intellectual inhibition or decline during their college years, this would prove nothing about the tests they take, but, I suspect, a great deal about their teachers.

As to the charge of "fragmentation," it is an open question whether frequent tests hinder or help thorough learning. It appears to me that frequent testing produces frequent reviewing, which is probably essential for permanence of learning. Frequent testing further demonstrates progress and mastery, or their absence, for the student's reward and guidance. Frequent testing informs the teacher also as to which topics need more work on his part. One might well add here that as long as we have required courses that students participate in only reluctantly, frequent testing will probably continue to be as necessary as it now is in enforcing their study.

If the argument I have given for objective testing is sound, then it appears that uncritical condemnation of tests is irrelevant. Rather, the situation calls for greater discrimination in their use. This might well be obtained by a brief and informal program of in-service training having the following aims:

1. To stress the necessity of clearly stated course objectives, so that students and faculty know what they are working for, and so that testing may be appropriate rather than arbitrary.

2. To point out the values, Mr. Smith to the contrary notwithstanding, of frequent testing. Again, the types of tests used should be intelligently chosen.
3. To eliminate some more or less common errors such as one Mr. Smith rightly criticizes, over-dependence on some arbitrary percentage system in the allocation of marks.

Mr. Smith not only criticizes marks and tests in his article, but he also proposes more thorough-going revisions of educational practices. He seems to feel that the institution of higher learning has become too inflexible and mechanical in its treatment of students. He wants us to create an ideal institution in which each student can be treated according to his own characteristics. Again to offer alternative comments, I would like to suggest that we cannot create this sort of ideal institution. Indeed, we should try to do just the opposite! That is, we should recognize and strengthen differences between and within institutions. Our society supports (and profits from) an incredible variety of institutions for higher education. Together, they provide a diversity of educational opportunity that no one institution or type of institution can hope to match.

As Mr. Smith says, the liberal-arts type of education is valuable and merits full support by society. So do other legitimate educational enterprises. We faculty people should respect and support all types. And we should publicize the differences, and then let the student select the institution and curriculum best suited to his own purposes (complete with evaluative procedures appropriate to his program). Students will make mistakes, of course, as they do now. Undoubtedly, we will need to improve on our present counseling procedures, but this can be done.

Mr. Smith seems to want to allow for individual differences by reconstructing the liberal-arts curriculum. While this proposal may be desirable for liberal-arts majors, it says nothing about all the others. We have no choice—and I think this is fortunate—but to continue to provide for individual differences by supporting a wide variety of types of institutions. That we are now able to do this so well, even in spite of occasional shortcomings, indicates the remarkable vitality of American higher education, and should inspire in us a strong sense of optimism toward the future.[2]

JOHN PAUL SMITH
State College, Moorhead, Minnesota

ACCORDING to preliminary findings of a study by the Science Manpower Project of Teachers College, Columbia University, high-school Seniors of high scholastic aptitude are more interested in careers in science and engineering and have more respect for scientists as persons than might be inferred from recent reports. The responses of 3,057, or approximately 10 per cent, of the Seniors in the 208 public high schools in New Jersey were obtained to a questionnaire in May, 1957. Thirty per cent of the boys in the highest quarter of intelligence and 31 per cent of those in the second quarter named a branch of science or engineering as first choice of a career. Fifteen per cent of the girls in the first quarter and 11 per cent in the second quarter made the same choice. A follow-up study will be made to find out if the high-ranking students actually enrolled in college courses leading to scientific or engineering careers.

[2]The valuable criticisms of H. B. English, of Ohio State University, and C. A. Glasrud, State College, Moorhead, are acknowledged with deep appreciation. At the same time, it should be kept in mind that the views are the author's alone.

··Reviews··

A Valuable Record of Experience

A GRADUATE PROGRAM IN AN UNDERGRADUATE COLLEGE: THE SARAH LAWRENCE EXPERIENCE, *edited by Charles Trinkaus.* Middletown, Connecticut: Wesleyan University Press, 1956. xx+119 pp. (Report by Members of the Committee on Graduate Studies, Sarah Lawrence College Publications No. 6). $1.50.

Unlike most college faculties, the Sarah Lawrence Faculty takes pains to analyze and record its own educational experience. There are many faculties whose experience may be richer and more comprehensive, but since they do not describe the road they have been traveling, the benefit of such experience is lost to other interested parties. Having pioneered in new methods of undergraduate instruction since its founding in 1928, the faculty and the dynamic president of Sarah Lawrence College, Harold Taylor, began some additional pioneering in graduate study in 1950. This book of 119 pages is the record, critically analyzed, of the establishment of a Master's degree program at this small liberal-arts college for women, located in the suburbs of New York City.

There is nothing unusual about liberal-arts colleges offering graduate study at the Master's level. Many colleges have been awarding Masters' degrees each year since their founding. The careful consideration which the Sarah Lawrence faculty directed to the rôle of a liberal-arts college in graduate study within the present educational milieu is unique. President Taylor, in his introduction to the book, pictures in clear, sharp lines the critical need of our society for competent teachers and scientists and the problems we face in obtaining them. His insight and lucid expression make the introduction worth reading. The discussions of the Sarah Lawrence faculty leading to the decision to establish a graduate program and the analysis of experience as the program developed through the years are briefly presented in the first two chapters. There follows, in Chapter III, educational case histories of seven students showing how the Sarah Lawrence approach to graduate study worked out in practice. The last chapter is a summary and exposition of ideas about Master's work in small colleges which emanated from a conference on this subject held at Sarah Lawrence in October, 1953. This is a thought-provoking chapter.

The book is not a major work on graduate education, but it is a welcome and valuable record of experience. It stands as a challenge to the policies and procedures which dominate American graduate schools, and modestly, it offers some directional signals to modifications of the present system. Although the product of several authors, the writing is uniformly good and the chapters fit together nicely.

Seasoned professors and administrators of established graduate schools will take issue with many of the assumptions and criticisms in this volume. The underlying thesis of the book, for example, is the well-worn *cliché* that graduate schools produce only research-oriented students to the neglect of prospective teachers who need help in acquiring well-balanced personal development, teaching ability, and a cultivated interest in students as people. The book emphasizes graduate study in some fields which probably do not belong in graduate schools at all—painting, dancing, nursery care, and other subjects which are essentially social arts rather than scientific or scholarly pursuits. There is criticism of specialization and an assumption that discussion and consultation can produce the knowledge, skill, and imagination necessary for the well-trained teacher or scientist.

The problem with which the Sarah Lawrence graduate program grapples is

the immaturity and intellectual underdevelopment of the American college graduate. Liberal-arts colleges, as well as undergraduate professional schools of various kinds, turn out increasing numbers of young men and women who are unprepared intellectually and emotionally for graduate study. Consequently, many graduate schools have reduced the quality of graduate work required for the Master's degree, and in some instances for the doctorate, to the type of routine course work which is unfortunately characteristic of undergraduate study.

The basic ingredients of the Sarah Lawrence program are educational counseling, individualized curriculums, and a new, but undefined, Master's degree. The emphasis upon individualized curriculums is a move in the right direction, but the failure of American colleges to produce mature students cannot be remedied by more counseling or any manipulation of advanced degrees.

JOHN W. MCCONNELL
Cornell University

Highly Informative

THE STUDENT'S ROLE IN COLLEGE POLICY-MAKING, *by Harry H. Lunn, Jr.* Washington, D.C.: American Council on Education, 1957. x+100 pp. (A Report Prepared for the Commission on Student Personnel of the American Council on Education). $1.00.

This very useful booklet is what it says it is—a descriptive report on the participation by students in the policy-making of colleges and universities. The first chapter, "Historical and Philosophical Perspective," places student participation briefly in the context of the structure of American education. The second, "Problem Areas," provides useful information about technical and procedural problems—the need to define the character of student participation in an institution, and the means by which it can be and is accomplished; the methods for training student leaders and for developing general student participation; and for establishing, among students and between students, faculty, and administration, personal relations favorable to participation. The next three chapters—the most important ones—report on the rôle students take in a variety of institutions, in the "General Government of the Institution," in the "Academic Administration," and in the "Student Personnel Administration."

The study is highly informative. More, these descriptive data could be an important guide to a further study—one that would analyze more fully than this one can both the effect of student participation on the development of an institution's educational philosophy and educational program, and the effect of participation on the students in those institutions which treat participation as a serious part of the students' education.

The report points out that many educators agree that participation is important to the "social and intellectual development of the individual," but that fewer believe it "can make a substantial contribution to educational decisions." The Commission, without making a plea for any particular procedures, is urgent in its conviction that "the substantive contribution of students to policy decision-making can be a vital one," and should be "used effectively in the solution of pressing educational problems" (page 7).

Data presented in this study give many clues to present attitudes on important issues: For instance, only 30 per cent of the deans replying to a questionnaire check curriculum planning as an area in which students can make an effective contribution (page 20, Table 4; page 72), and only 14 per cent of the student councils report the existence of any student committee primarily interested in curriculum problems (page 18, Table 2; page 72). One of the principal sources of complaint by teachers in some institutions is the apathy or lack of motivation of students, and indeed this constitutes a serious source of waste in higher education today. The booklet suggests that "encouraging students to develop a critical interest in the curriculum as it relates to their own educational objectives would seem to be one promising means by which teachers can increase the motivations of their students to learn" (page 72). This is a true but very mild statement of a crucial problem

which deserves further inquiry—to discover whether motivation is, in fact, higher in institutions in which students are encouraged to take a lively interest in the curriculum and to discuss it among themselves and with members of the faculty and administration, than in institutions in which this is discouraged or never considered.

Another important question, one about which there is a wide difference of opinion, is: In what ways should students be involved in dealing with questions of behavior in or out of classrooms? The involvement of students in handling "discipline" problems appears to be wider than in almost any other area. Only "social policies" and "charity drives" are more frequently listed in replies on this subject from student governments in 486 institutions (page 19, Table 3; page 84). In most instances there is on campus a disciplinary body, including students, that acts as a "court" convened principally to hear cases of infraction of college rules and to exact penalties.

The writer of the report refers to the "insights discerning students can offer on student cases which might escape individuals removed from day-to-day student life" (page 87); but there is much difference of opinion as to what kind of "discipline cases" students should properly become involved in. Many educators feel students should not participate in the consideration of serious infractions of rules, since undesirable behavior is often a symptom of psychological difficulties requiring counseling, and discussion of how to deal with them is outside the area of competence of students (page 85). However, one could inquire whether an institution might find it important to the general education of students to help them understand that unacceptable behavior often grows from complicated psychological roots. This might be done by encouraging the creation of a student group that was not merely a "court" imposing "discipline" in moments of crisis, but one that had a broad and continuing concern with the general behavior of students and the general morale of the institution.

An important general question suggested by the data is: How much student involvement in any area is positive—concerned with continuing, constructive planning—and how much of it is negative—concerned with taking action on infractions or protesting against college rules and practices? How much of the student's rôle in the academic organization of the college, for instance, involves creative thinking and action toward making education better, and how much is confined to such matters as cheating, or an unsatisfactory marking system or cut system or examination schedule? How much of students' concern with matters of general behavior is directed toward understanding and improving morale, and how much toward police-court activities?

The data in this report are very valuable as a guide to any institution's examination of itself, and the questions they stimulate could lead to a much-needed inquiry into the true relation between the student's participation in his college on a policy-making level and the total character of his education.

ESTHER RAUSHENBUSH
Sarah Lawrence College

A Useful Guide

THE COLLEGE GIRL LOOKS AHEAD TO HER CAREER OPPORTUNITIES, *by Marguerite Wykoff Zapoleon.* New York: Harper and Brothers, 1956. xii+272 pp. $3.75.

Almost without exception, the girl who goes to college expects to work after graduation, either immediately or at some time in her life. A rare few know early what vocation they want to follow; the great majority put off a decision until the last years in college or even later. Their interests spread out in many directions: they try to learn as much as they can about a number of fields, they seek advice from friends, parents, and teachers. It is to this majority, and to their advisers, that Mrs. Zapoleon's book, *The College Girl Looks Ahead*, is directed. The author, now special assistant in the Women's Bureau of the United States Department of Labor, has worked for many years in the field of vocational guidance. In this book she has, as she states, attempted to

"describe the principal fields of work of women college graduates, the variety of occupations within each field, the distinguishing characteristics of each field, the talents required, and how to try out, prepare for, and enter it" (page 5). This is a large order. She covers homemakers, educators, secretaries, medical and other health workers, musicians, artists, actresses, social and religious workers, home economists, writers, editors, linguists, librarians, business women, government workers, politicians, lawyers, social scientists, engineers, architects, and workers in transportation, broadcasting, and agriculture. (The occupations are taken up according to the number of women reported as being engaged in each one.)

The author has successfully condensed into 272 pages an authoritative, readable, and highly sensible account of these fields. Although the descriptions are necessarily brief, they cover in general the essentials of each occupation as it is carried on today. Mrs. Zapoleon sticks to the facts of the present; she makes few predictions as to possible future changes in the vocational picture. There is in the book almost no mention either of the atom or of automation, two factors which must certainly be reckoned with. The book is an over-all summary of what is open to the woman college graduate *now*—a bird's-eye view of what she can do in the working world of today.

Appended to each chapter is a listing of organizations which can supply detailed and current information on specific jobs, such as the American Institute of Physics, American Bankers Association, Council on Social Work Education, American Association of Advertising Agencies, and others. From these sources the student (and her advisers) can get the facts they need for further exploration of each field.

The book should be particularly helpful to students in the last years of high school or in the first two years of college. In addition to its general introduction to many kinds of occupations, it lists college courses helpful in each and stresses the value of vacation jobs as a means of obtaining experience and as trial runs. As Mrs. Zapoleon states:

> . . . The diversity of opportunities for college graduates today, the contrary pulls which all individuals experience in a society that needs their service in the home, labor market, and community—these place a premium on planning and wisdom of choice (page ix).

For many girls this book should prove a useful guide through what seems to them, and what often is, a bewildering array of possibilities. Some of their brothers may well want to read it, too.

JANE T. JOHNSON
Vassar College

Stimulating, Original, and Helpful

INSIGHT: A STUDY OF HUMAN UNDERSTANDING, *by Bernard J. F. Lonergan, S. J.* New York: Philosophical Library, Inc., 1956. xxx+785 pp. $10.00.

Father Lonergan is Professor of Dogmatic Theology at the Gregorian University at Rome, and this charmingly written book is a product essentially of his theological background. It is written not from the background of experimental or observational psychology, but from the standpoint of a theological philosopher—*not* a philosophical theologian. In short, this is a book of insights from such a background about insight.

The book is obviously by an author who is learned in his subject and who has thought long and deeply about it. He is, furthermore, a writer of great charm and simplicity, qualities which cause the reader to be not only sympathetic even when he cannot agree, but anxious to discover what other new idea Father Lonergan will come up with, for this is a book full of novel ideas and heuristic insights, and for that reason alone it will be found profitable reading by anyone who desires to obtain a fuller insight into the process and nature of insight. Father Lonergan's analysis of insight is done with great nimbleness and achieved with clarity. He is evidently an able mathematician as well as a widely read man, and he is a man of great wisdom. On virtually every page there is something worth quoting, and on the page upon which my eye happens to fall as I write these words I see: "Every specialist runs the risk of turning his specialty into a bias by failing

to recognize and appreciate the significance of other fields" (page 226). The rest of the passage is also worth quoting, but the reader must be left to discover that for himself.

Father Lonergan makes it quite clear in Chapter XIX that the preceding chapters were written, "to give concrete expression to the sincerity of Catholic thought in affirming the essential independence of other fields," but at the same time by this means revealing "the inevitability with which the affirmation of God and the search of intellect for faith arise out of a sincere acceptance of scientific presuppositions and precepts" (page 744). But these other fields have only particularist references, they are competent to answer the particular type of question with which they deal, but they cannot triumph over all the various types of bias. This theology alone can do, and hence the universal relevance of theology, according to Father Lonergan.

Father Lonergan's theological arguments deserve to be read with respect and attention, for even though one may not be able to accept them they are stimulating of new insights into old problems.

Altogether, then, this is a stimulating, original, and helpful book which should make a special appeal to educators.

ASHLEY MONTAGU
Princeton, New Jersey

Essentially a Restatement

THE PERSON IN PSYCHOLOGY: REALITY OR ABSTRACTION, *by Paul Lafitte.* New York: Philosophical Library, Inc., 1957. x+233 pp. $6.00.

This book, written by the senior lecturer in psychology at the University of Melbourne, is essentially a restatement of an old thesis, namely that the development of scientific techniques, in which psychology is falsely allied with the natural sciences, has resulted in the person of common experience being overlooked in favor of an abstraction which bears little relation to reality. He examines at length the misapplications of the methodology of science in psychology and argues that psychology can take its rightful place as a branch of the historical sciences only if psychologists can develop techniques appropriate to the limitations of the data provided.

In support of his case, Mr. Lafitte presents many curious arguments. He cites the measurement of aptitude or factor scores and the work of the physiological psychologist as two examples in which reliance is placed exclusively on behavior in artificial situations remote from human life and in which historical information obtained from the subject himself is ignored. In this respect he criticizes Eysenck for isolating personality factors which can be measured with considerable statistical rigor but which are unrelated to behavior in the real world. He thinks that animal psychology, whatever its merits as a specialized subject, is irrelevant to psychology in general; he believes that it is not possible to know the working of an organism from the study of isolated parts or from the study of the whole in artificial or controlled laboratory conditions. In his plea for empathy he implies that the best way to understand the experiences of, for example, the compulsive or schizoid personality, is for the psychologist to try to think in a compulsive or schizoid manner, if necessary by the construction of imaginary experiences.

His views upon learning are strange and his discussion of mental abnormality in terms of learning theory unique. Mr. Lafitte believes that

> learning is not a special process at all, it is simply the person's engagement in time, or his becoming. While learning is therefore in the present, it cannot be understood without reference to the person's past and future. The infinitesimal present is the imaginary moment in which the past becomes the future but the effective present of history is the period in which the person *changes* the past into the future (page 73).

In support of his arguments the author invokes philosophic distinctions such as the difference between subjective and objective knowledge and suggests that psychologists would do well to return to the cosmology of their philosophic ancestors.

It is difficult to treat Mr. Lafitte's contentions seriously, despite the fact that he displays a considerable amount of

sophistication and erudition in his treatise. He ignores the existence of validation studies in psychology and the fact that Eysenck developed criterion analysis to meet just this problem of relating statistically isolated factors to external criteria. His interpretation of theory construction and scientific methodology is unusual, to say the least. As far as the present reviewer is concerned it is reasonable, and even easier, first to demonstrate a relationship in a well controlled laboratory situation and then to extend the findings to the less controlled situation of the outside world. As for animal experiments, the more areas in which a theory can be shown to be applicable, the greater its generality and the more acceptable the theory becomes.

CYRIL M. FRANKS
New Jersey Neuro-Psychiatric Institute

A New Approach

THE HUMANITIES AND THE LIBRARY: PROBLEMS IN THE INTERPRETATION, EVALUATION AND USE OF LIBRARY MATERIALS, *by Lester Asheim and Associates*. Chicago: American Library Association, 1957. xx+278 pp. $5.00.

This textbook for courses in library schools should be studied carefully by everyone whose business it is to worry about the future of professional schools in American education. It throws new light on the problem of how the professional schools are to substitute "education" for "training" without losing the advantages of motivation that come from direct concentration on the content of professional work.

Library schools have, since their founding in 1876, differed from other professional schools in American universities in that they insisted on the possession of an A.B. as a prerequisite. However, until recently they have attempted to teach their students the bibliographies and reference tools in all fields of knowledge without dealing with the literature of knowledge itself—which the practicing librarian was expected to learn as he worked. Too few were able to do this.

The new approach is based on an attempt to make subject-matter the point of departure, although librarianship is kept as the primary object of study. "Librarianship is studied as conditioned by the nature of the materials which make up the library collections, and these in turn as they are conditioned by the subject field out of which they spring" (page x).

This volume applies this approach to one segment of knowledge—the Humanities. No parallel studies have yet been made of the sciences or the social sciences, although Jesse Shera, dean of the School of Library Science, Western Reserve University, has done one for the field of history (*Historians, Books, and Libraries: a Survey of Historical Scholarship in Relation to Library Resources, Organization, and Services*. Cleveland: Western Reserve University Press, 1953).

The easiest way to grasp the significance and method used in this approach is to examine the headings under which one of the fields is discussed:

1. Definition of religion
2. The literature of religion—by type, church history, comparative religion, Biblical criticism, psychology of religion
3. The "Literary" religions
4. The Judeo-Christian Bible
   Development and editions
   Reference aids to the Bible
   Books based on the Bible
5. Other Scriptures
6. Selection problems—popularizations, polemic literature, religious literature for children, periodicals, gifts
7. Religious librarians in the U.S.A.
8. Classification and cataloging of religious materials
9. Reference works (pages 2–55)

The assumption is that students who, after having four years of liberal education, use this approach to the analysis of the literature of scholarship will have a solid foundation of learning principles and criteria for evaluation (instead of a head full of knowledge about specific books) which they will be able to use in evaluating new books as well as being able to recognize the place each old book occupies in intellectual history.

Professional education based on this kind of approach belongs in the American university because it provides students with learning tools they can use to develop a life of professional competence.

RALPH E. ELLSWORTH
University of Colorado

Educationists and the Tradition of Learning

WALTER J. ONG

[*Continued from page 69*]

cannot be learned without attention to the sociology of communication. Could it be that older ways of taking language and the thinking processes in isolation from the total social complex are too narrowly specialized to bc fully serviceable today?

What it means to be preoccupied with techniques of communication, to be, that is, an educationist, cannot be understood apart from a knowledge of history. This is the final point to which I hope the present paper leads. Most quarrels between educators would be better handled, if not actually resolved, if both sides showed a more detailed knowledge of their own historical *raison d'être*. The educationist needs a knowledge of history to be aware of the enviable and complex record of educationists in the past, which should be an inspiration and a challenge to him. It is no small matter that the universities, which have shaped so much in the modern world, were in their origins normal schools. The worst disservice an educationist can render to his cause is a rootless educational theory. Educational theory and a genuinely liberal education are in effect much the same thing.

This the anti-educationist would do well to remember. What is needed, he should remind himself, is not fewer professional educationists and fewer professional education courses, but better educationists and better education courses. To think that modern education can be carried on under the direction of anyone but an educationist—a person preoccupied with techniques and theories of communication—is a pipe dream. The origins of our modern systems of education point to an entirely different conclusion. The history of learning, of scholarship, of research, is the history of teachers teaching teachers and, in great part, of teachers teaching teachers how to teach.

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Once Again—Faculty Salaries

KENNETH E. EBLE

[*Continued from page 80*]

would set off our profession sharply and to its detriment from the rest of American society. Certainly a portion of our profession exists at or above this level now. Judging from current salary statistics, I suspect the larger portion does not.

What an adequate professional salary scale would be in actual figures I do not know. I think there is enough unity in the rather loosely organized profession of college teaching to arrive at reasonable general salary objectives. The Association of Canadian University Teachers recently adopted a recommendation for a national salary scale of $6,000, $8,000, $11,000, and $14,000 as minimums for the various ranks. Beardsley Ruml has suggested minimum salary objectives for professors of $15,000 and maximums of $30,000. There is already some evidence that college salaries have begun to move up to more realistic levels.

How to achieve salary objectives is, of course, another matter, and I do not mean to shrug off the difficulties of how this is to be done. But among the first hows, it seems to me, is the

necessity of convincing a large part of the profession itself, not that an individual's salary is too low or even that in comparison with other groups college teaching is underpaid, but that the maintaining of the quality and the effectiveness of higher education in the United States depends upon attaining an adequate financial status for the profession as a whole.

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Certain Cost Concepts

HARDING B. YOUNG

[*Continued from page 94*]

vary with student enrollment and still others do not vary, or, if they do, it is to a lesser extent. In each case the various expenses are analyzed in terms of variability with enrollment. The treasurer feels that this method has been very helpful in arriving at a continuous evaluation of the college's optimum size.

Here we have viewed certain cost concepts and the use to which these have been put in small colleges studied, determination of institutional policy on size of the enrollment, cost control, cost reduction, effort control, and budget preparation and planning. All of these involve a study of past costs to get some understanding of the college's present cost situation and a better idea of cost relationships to enrollment.

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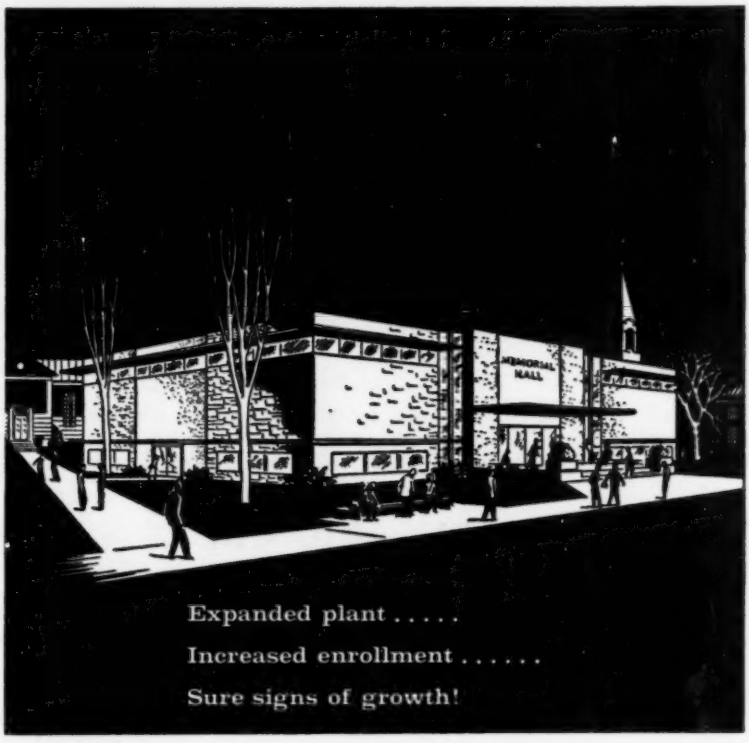
Government Scholarships

[*Continued from page 100*]

changing attitudes toward education all help to explain the acceleration in university attendance figures. Discussions with many high-school and university students leave little doubt in my mind, however, that the scholarship scheme has lessened the inequality of opportunity for university attendance.

The Commonwealth Scholarship Program in Australia is equivalent to a Federal program in the United States costing about $40,000,000, and one might be justified in saying that if this country spent money for scholarships in a way comparable to Australia, we would be spending hundreds of millions of dollars for government scholarships. Before Federal scholarship programs are enacted in the United States, careful study should be made of other operating national scholarship programs.

A paragraph must be devoted to another series of Australian scholarship programs. The separate states for years have had bursaries or scholarships for secondary-school students preparing to become teachers and nurses. These receive annual grants beginning at about the age of fourteen and continuing until the completion of their professional training. Thus, the high-school and higher education of these students cost them and their families little, if any, and young people are guaranteed for occupations where serious shortages are found. Each recipient of such bursary agrees to work in the profession for a specified number of years or to repay the money received. These programs undoubtedly encourage many children to continue their education and provide many needed nurses and teachers. The effects of such early occupational commitment are as yet unknown and make an interesting topic for further study.



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READABILITY: AN APPRAISAL OF RESEARCH AND APPLICATION

By JEANNE S. CHALL

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